

Forthcoming BERR expanded guidance on the EMC Regulations 2006 No. 3418

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Disclaimer

Although the information provided in this presentation is based upon discussions with, and advice given to, BERR, any opinions expressed are my own and do not necessarily reflect those of BERR.

The information provided may be subject to minor changes when the new UK guidance is published.

Background

- EC guidance to previous Directive
 - 1993, 1996, 1997
- UK guide to previous Regulations
 - Final edition URN 05/1162 published in July 2005
- New EMC Directive 2004/108/EC
- EC guidance published March and May 2007
- New EMC Regulations
 - Interim guidance circulated with consultation on Regulations
 - Guidance published March 2007 URN 07/743
 - Updated guidance published November 2007 URN 07/1614
 - Update on military equipment

Structure of the guidance

- The law in brief
- Essential Requirements
- Requirements for apparatus
- Requirements for fixed installations
- Other issues affecting apparatus
- Annexes
 - Principles of the single market
 - Excluded apparatus
 - Notified bodies
 - Contacts for further information

Apparatus and fixed installations

- 2004/108/EC regulates the EMC of equipment
 - Apparatus
 - Finished appliance (or combination thereof) made commercially available as a single functional unit and intended for end user
 - Components or sub-assemblies intended for incorporation into apparatus by the end user
 - Mobile installations (a combination of apparatus and, where applicable, other devices intended to be moved and operated in a range of locations)
 - Fixed installation
 - 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 predefined location

Transitional arrangements

- 89/336/EEC was repealed on 20 July 2007
 - UK Regulations SI 2005 No. 281 revoked also
- No more declarations of conformity to 89/336/EEC
- SI 2006 No. 3418 came into force on 20 July 2007

Transitional arrangements – apparatus

- Apparatus with a valid DoC issued before 20 July 2007
 - May be placed in the market before 20 July 2009 and subsequently put into service
 - Any changes within those two years that require a change to the DoC
 - The product
 - The product's description
 - The harmonised standards
 - Will require a new DoC to 2004/108/EC
 - All new requirements apply at that point
- All apparatus placed on the market from 20 July 2009 must have a DoC to 2004/108/EC

Transitional arrangements – fixed installations

- New fixed installations put into service from 20 July 2007 must comply with 2004/108/EC
 - They are not placed on the market
 - This allowed the relaxation for apparatus for a given fixed installation to take effect on 20 July 2007
- Fixed installations existing on 20 July 2007
 - Regulations apply if modified in a way that may affect its EMC
 - Obligation to document good engineering practices
 - Documentation limited to implications of the change

Essential requirements

- Protection requirements for all equipment
 - Designed and manufactured having regard to the state of the art
 - Emission unchanged from 89/336/EEC
 - Immunity now without unacceptable degradation in the presence of disturbances to be expected in intended use
- Specific essential requirements for fixed installations
 - To be installed
 - Applying good engineering practices
 - Respecting the information on intended use of components
 - With a view to meeting the protection requirements
 - Good engineering practices shall be documented
 - Documentation held by responsible person as long as the fixed installation is in operation

State of the art

- ISO/IEC Guide 2
 - “developed stage of technical capability at a given time as regards products, processes and services, based on the relevant consolidated findings of science, technology and experience”
- Two aspects
 - Design and construction technique
 - Requirements
- Only need to have regard to state of the art
- May not need to employ highest degree of design/construction
 - If equipment meets the essential requirements
- Harmonised standards represent state of the art for requirements
 - If not employed, take into account
 - Services to be protected
 - Disturbance to which equipment may be subjected

Unacceptable degradation

- Manufacturer sets the requirements
 - Compliance with harmonised standards
 - Manufacturer may need to interpret Criterion A, B, C performance
 - Where harmonised standards not employed in full
 - Has to meet reasonable expectations or
 - Stated customer requirements

Requirements for apparatus placed on market

- Must meet the essential requirements
- Compliance must be demonstrated
 - By a documented conformity assessment process
- Technical documentation must be created
- Declaration of conformity must be drawn up
- CE marking must be applied
- Manufacture must be in accordance with the technical documentation
- Each apparatus placed on the market must be accompanied by appropriate information
 - To ensure it meets requirements when put into service

Conformity assessment

- Required for apparatus only
 - Not required for apparatus for a given fixed installation and not otherwise commercially available
- Notified Body involvement optional in all circumstances
- Internal production control
 - EMC assessment, or correct application of all relevant harmonised standards, or a combination
 - Technical documentation
 - Evidence of conformity drawn up by manufacturer
 - Must cover design and manufacture
 - Must allow conformity to be assessed
 - Manufacture must be in accordance with technical documentation

Technical documentation

- General description of the apparatus
- Evidence of compliance with harmonised standards
 - If any (applied in full or in part)
- Description of steps taken to meet essential requirements
 - Where harmonised standards not applied in full
 - EMC assessment on the basis of all relevant phenomena
 - For all operating conditions
 - In all possible configurations representative of intended use
 - Results of design calculations, examinations, tests, etc.
- Optional statement from a Notified Body

Declaration of conformity

- Additional requirements
 - Reference to the new EMCD 2004/108/EC
 - Identification of the apparatus by type, batch, serial number, etc.
 - Name and address of the manufacturer
 - Name and address of the authorised representative
 - If applicable
 - Dated references to specifications under which conformity is declared
 - Date of the declaration
 - Identity and signature of the person empowered to make the declaration

Information requirements

- To be supplied with each apparatus
 - Identification by type, batch, serial number (or other)
 - Name and address of manufacturer
 - Name and address of authorised representative or responsible person
 - Where the manufacturer is not established in the Community
 - Instructions for use
 - To enable use in accordance with the intended purpose
 - Specific precautions to be taken
 - To ensure conformity with the protection requirements
 - Covering assembly, installation, use and maintenance
 - Clear indication of restriction of use
 - Where compliance is not ensured in residential areas

Enforcement for apparatus

- Enforcement authorities
 - Trading Standards Departments in GB
 - Department of Enterprise, Trade and Investment in NI
 - Ofcom
 - In relation to protection and management of the radio spectrum
 - Secretary of State for Business, Enterprise and Regulatory Reform
 - In exceptional circumstances
- Responsible persons for apparatus
 - Must make available, on request of an enforcement body
 - DoC, technical documentation, notified body statement

Fixed installations

- No requirement for
 - Conformity assessment
 - Declaration of conformity
 - CE mark
- Must meet the essential requirements
- Regulations do not define extent of a fixed installation
 - Defined by responsible person
 - Cannot exclude any part within area of control
 - Unless it is part of another fixed installation

Definition of a fixed installation

- “Intended to be used permanently”
 - Important elements
 - Intent – at the time of first use of the constituent parts
 - Duration – at the defined location for their expected lifetimes
 - Duration would not be fulfilled if constituent parts are
 - Expected to be moved elsewhere during their expected lifetime
 - To be put into service at the new location
 - Recognised that modifications are made over lifetime
 - Such modifications would not invalidate the original intent
 - Such acts are subject to the relevant provisions of the Regulations

Responsible person

- Regulations definition
 - “the person who, by virtue of their control of the fixed installation is able to determine that the configuration of the installation is such that when used it complies with the essential requirements”
- Guidance
 - Will depend on type, size, complexity and circumstances
 - E.g. owner, operator, maintainer
 - May be determined contractually
 - Position of responsibility, able to be satisfied (with advice if necessary) that documentation demonstrates good engineering practices have been employed
 - Must be identified before fixed installation is taken into service

Good engineering practices

- Essentially the expression of sound technical custom
 - Based on accumulated scientific technology and experience
 - Implicit that good EMC engineering practices must be employed
- Sufficient to meet the protection requirements
- Will vary according to
 - The technologies employed in the constituent parts
 - The surroundings (environment, and potential victims)
- The existence of better engineering practices would not invalidate sufficiently good practices that allow the protection requirements to be met

Apparatus for a given fixed installation

- Apparatus for a given fixed installation (only) need not
 - Meet the essential requirements
 - Undergo a conformity assessment
 - Be CE marked
 - Meet all the information requirements
- But must
 - Be identified, carry the manufacturer's (etc.) name and address
 - Be accompanied by documentation that
 - Identifies the fixed installation where the apparatus will be installed
 - Identifies its electromagnetic compatibility characteristics
 - Indicates the precautions to be taken for incorporation
 - So as not to compromise the installation's conformity

“Given” fixed installation

- Relaxation of requirements for certain apparatus
 - Intended for incorporation into a given fixed installation
 - Not otherwise commercially available
- Draft guidance
 - Nature of the installation must be known
 - By the manufacturer of the apparatus
 - To determine suitable precautions to be taken for incorporation
 - This means a specific location – not just a type
 - Subject to Recital 20 of 2004/108/EC (identical fixed installations)
 - Sufficiently alike in EMC characteristics and interfaces that identical apparatus and precautions will maintain conformity
 - Else must be treated as separate given fixed installations

EMC characteristics

- Manufacturer or authorised representative needs to identify the fixed installation and its EMC characteristics
- Draft guidance
 - Needs to understand the characteristics in sufficient detail
 - To design or adapt apparatus to be suitable for incorporation
 - To identify the specific precautions to be taken
 - Level of detail will depend on
 - Complexity of the apparatus
 - The intended fixed installation and its electromagnetic environment
 - Straightforward cases – descriptions in generic standards
 - More complex cases – specific characteristics may be needed
 - Manufacturer or authorised representative responsible for this judgement

Enforcement for fixed installations

- “Responsible person(s)” are responsible for conformity
 - In the UK the person who has control
- Where there are indications of non-compliance
 - In particular, complaints of disturbances being generated
 - Authorities may
 - Request evidence of compliance of the fixed installation
 - Where appropriate, initiate and assessment
- Where non-compliance is established
 - Authorities may impose appropriate measures to bring the installation into compliance with the protection requirements
- Complexity increases if there is interaction

Residential areas

- Residential areas may be considered to be domestic environments and locations immediately adjacent
- Regulations require an indication when compliance of apparatus in residential areas is not ensured
 - Where appropriate also on packaging
 - “Clear indication” = statement in user documentation
 - Areas where apparatus may be used
 - If not residential areas
 - A warning that use in residential areas may cause interference
 - That such use should be avoided unless special measures are taken by the user to restrict emissions to a level that allows reception of broadcast emissions

Mobile installations

- Mobile installations = apparatus
 - They are subject to the requirements for apparatus
- The definition does not require the combination to have identical configuration in each location
 - Therefore installations taken down, moved and reassembled are mobile installations
 - Can't be fixed installations
 - Can't be apparatus for a given fixed installation
- Must meet Regulation 15 when placed on the market
- Must meet Regulation 16 when put into service
 - Responsibility of person using apparatus at each location

Components

- Components and subassemblies
 - Intended for incorporation into apparatus by an end user
 - Liable to generate or be affected by electromagnetic disturbances
 - Considered apparatus
 - Therefore subject to the appropriate provisions of Regulations
- Components and subassemblies
 - Intended for incorporation by persons such as manufacturers
 - Outside the scope of the Regulations
 - The completed apparatus is subject to the Regulations

Application to military equipment

- Article 296 of the Treaty
 - Derogation under which Member States can protect essential security interests
 - Connected with the manufacture of military equipment designed for use as arms, munitions or war material
- MoD legal interpretation
 - If derogation not applied, EMC Regulations apply
 - Article 296 must be applied on a case by case basis
 - Derogation may be applied to equipment capable of other applications
 - May not be applied if designed for dual use

Exclusions

- Equipment covered by R&TTE Directive 1999/5/EC
- Aeronautical products, parts, appliances EC Reg 11592/2002
- Radio equipment used by amateurs
- Benign equipment
- Equipment demonstrated at trade fairs, etc.
- Equipment covered by other directives containing EMC requirements (in whole or in part)
- Safety
- Second-hand apparatus as a consequence of the “Blue Guide”

Thank you for listening

Now time for your questions and comments ...