

COMPLIANCE WITH EU DIRECTIVES RELEVANT TO HIGH-VOLTAGE SWITCHGEAR AND CONTROLGEAR*

Listed below are Directives of the European Union which, it is believed, might be applicable to **High-Voltage Electrical Equipment**:

- The Machinery Safety Directive (MD)
- The EMC Directive (EMCD)
- The Low Voltage Directive (LVD)
- The Construction Products Directive (CPD)
- The Pressure Equipment Directive (PED)
- Directive on Waste Electrical and Electronic Equipment (WEEE) and Directive on the Restriction of the use of certain Hazardous Substances in electrical and electronic equipment (RoHS)
- Eco-Design of End Use Equipment Directive (EUP)

The Machinery Directive (MD 2006/42/EC) applies to most types of machinery apart from certain special types which are specifically excluded. The actual version substituting the previous version 98/37/EC states clearly that HV switchgear are exempted for the MD. For HV Switchgear Article 1.2 is relevant, “The following are excluded from the scope of this Directive”, now states in sub 1.: “the following types of high-voltage electrical equipment: - switchgear and controlgear - transformers.”.

Members of CAPIEL HV (High Voltage):

ANIE –	Federazione Nazionale Imprese Elettrotecniche Ed Elettroniche (Italy)
BEAMA –	British Electrotechnical And Allied Manufactures’ Association - Power (United Kingdom)
FEEI –	DER FACHVERBAND DER ELEKTRO- UND ELEKTRONIKINDUSTRIE (Austria)
FME –	Vereniging voor de Metaal – en de Elektrotechnische Industrie (Netherlands)
GIMELEC –	Groupement des Industries de l’Equipement Electrique, du Contrôle Commande et des Services Associés (France)
SERCOBE –	Agrupacion de Fabricantes de Maquinaria Electrica (Spain)
ZVEI –	Zentralverband Elektrotechnik und Elektronikindustrie – Fachverband Energietechnik (Germany)
ANIMEE –	Associação Portuguesa Das Empresas Do Sector Electrico E Electronico (Portugal)

The EMC Directive (EMCD 89/336/EEC) - Intended to apply to nearly all electrical equipment. Specifically, high-voltage electrical installations are fixed installations in the meaning of the EU Guidelines on the Application of the EMC Directive. Therefore, whilst high-voltage installations are subject to the essential requirements of the Directive, there is no need for CE-marking, or an EC declaration of conformity, or to involve a competent body (see sections 6.5.2 + 6.5.3 in the Guidelines).

As for the constituent parts of high-voltage electrical installations, such as high-voltage switchgear and controlgear, these can be considered to be components not performing a direct function (see Definition 3.8). **There is, therefore, no need for CE-marking, neither an EC declaration of conformity, nor to involve a competent body.**

The New EMC Directive (EMCD 2004/108/EC)

The new EMCD has been officially published January 20th 2005 and has to be transformed into national law until July 20th 2007 by the member states.

The rationale for the existing EMCD above is still valid for the new EMCD. The new EMCD has clarified that fixed installations have not to be CE-marked. Presently Orgalime is participating in a work group which will be responsible for the new EMCD guidelines. Capiel is in close contacts for the matter of high voltage equipment and fixed installations.

The Low Voltage Directive (LVD 2006/95/EC) –

The new codified version of the Low Voltage Directive LVD 2006/95/EC was published on 27 December 2006 and repealed the former version LVD 73/23/EEC, but the content remains the same. Therefore there will be no new national law based on this revision.

The LVD applies to low voltage equipment (subject to the voltage limits), also used within high-voltage switchgear and controlgear e.g. control circuits, relays of protection, measuring and metering devices, terminal blocks etc. This equipment, when procured from the market place, has to comply with the LVD and to carry the CE Marking.

Note: Some ancillary low voltage equipment associated with H.V. switchgear and controlgear may carry the CE Marking in respect of e.g. the Low Voltage Directive if they are also freely available on the free market.

However H.V. switchgear and controlgear will not carry the CE Marking in relation to the LVD because that would be illegal due to high-voltage products falling outside its scope.

Although at this moment the LVD is under revision, by its nature of the applicable voltage range (< 1000 V AC and < 1500 V DC), this Directive remains not applicable to HV Switchgear and Controlgear.

Construction Products Directive (CPD 89/106/EEC) – Switchgear and Controlgear are not within the scope of the CPD.

The directive clarifies the scope as follows:

“Article 1

....

For the purposes of this Directive, 'construction product' means any product which is produced for incorporation in a **permanent manner** in construction works, including both buildings and civil engineering works.

...”

The official European commission CPD webpage¹ also defines that “...Incorporation of a product in a permanent manner in the works means:....that the dismantling or the replacement of the product are

¹ <http://europa.eu.int/comm/enterprise/construction/internal/intdoc/common/genterms.htm>

operations which involve construction activities.” This is definitely not the case for switchgear and controlgear and hence they are outside of the scope.

Pressure Equipment Directive (PED 97/23/EC)

The “Enclosures” used for the HV Switchgear are explicitly excluded in the Pressure Equipment Directive.

Reference is made to Art. 1, 3. “The following are excluded from the scope of this Directive “and then under 3.12: “enclosures for high-voltage electrical equipment such as switchgear, controlgear, transformers, and rotating machines“

Since its putting into force, the PED is unchanged.

Directive on Waste Electrical and Electronic Equipment (WEEE 2002/96/EC) and Directive on the Restriction of the use of certain Hazardous Substances in electrical and electronic equipment (RoHS 2002/95/EC)

HV equipment is outside of the WEEE and RoHS directive (Article 3 WEEE).

Directive Eco-Design of End Use Equipment (EUP 2005/32/EC)

The framework directive will only be effective for those sectors with implementation measures. As HV equipment as a special and not consumer related industry is not suggested for implementation measures it is excluded. Also the future generation of an implementation measure for HV equipment is seen as impossible due to the limiting definition for new implementation measures (Article 15 of the directive).

Other Directives

Presently HV Switchgear and Controlgear are not falling under any other Directive requiring an EC Declaration of Conformity and subsequently CE Marking.

New developments are followed carefully, and initiatives will be developed when appropriate.

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Switchgear

A general term covering switching devices and their combination with associated control, measuring, protective and regulating equipment, also assemblies of such devices and equipment with associated interconnections, accessories, enclosures and supporting structures, intended in principle for use in connection with generation, transmission, distribution and conversion of electric energy.

Controlgear

A general term covering switching devices and their combination with associated control, measuring, protective and regulating equipment, also assemblies of such devices and equipment with associated interconnections, accessories, enclosures and supporting structures, intended in principle for the control of electric energy consuming equipment.