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## Legislation

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I Acts adopted under the EC Treaty/Euratom Treaty whose publication is obligatory

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<sup>(1)</sup> Text with EEA relevance

Price: EUR 26



Acts whose titles are printed in light type are those relating to day-to-day management of agricultural matters, and are generally valid for a limited period.

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## I

(Acts adopted under the EC Treaty/Euratom Treaty whose publication is obligatory)

## DIRECTIVES

**DIRECTIVE 2009/64/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**

**of 13 July 2009**

**on the suppression of radio interference produced by agricultural or forestry tractors (electromagnetic compatibility)**

**(codified version)**

**(Text with EEA relevance)**

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 95 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Economic and Social Committee <sup>(1)</sup>,

Acting in accordance with the procedure laid down in Article 251 of the Treaty <sup>(2)</sup>,

Whereas:

- (1) Council Directive 75/322/EEC of 20 May 1975 on the suppression of radio interference produced by agricultural or forestry tractors (electromagnetic compatibility) <sup>(3)</sup> has been substantially amended several times <sup>(4)</sup>. In the interests of clarity and rationality the said Directive should be codified.
- (2) Directive 75/322/EEC is one of the separate Directives of the EC type-approval system provided for in Council Directive 74/150/EEC of 4 March 1974 on the approximation of the laws of the Member States relating to the type-approval of wheeled agricultural or forestry tractors, as

replaced by Directive 2003/37/EC of the European Parliament and of the Council of 26 May 2003 on type-approval of agricultural or forestry tractors, their trailers and interchangeable towed machinery, together with their systems, components and separate technical units <sup>(5)</sup>, and lays down technical prescriptions concerning the suppression of radio interference produced by agricultural or forestry tractors (electromagnetic compatibility). Those technical prescriptions concern the approximation of the laws of the Member States to enable the EC type-approval procedure provided for in Directive 2003/37/EC to be applied in respect of each type of tractor. Consequently, the provisions laid down in Directive 2003/37/EC relating to agricultural and forestry tractors, their trailers and interchangeable towed machinery, together with their systems, components and separate technical units apply to this Directive.

- (3) This Directive should be without prejudice to the obligations of the Member States relating to the time-limits for transposition into national law and application of the Directives set out in Annex XII, Part B,

HAVE ADOPTED THIS DIRECTIVE:

*Article 1*

For the purposes of this Directive, 'vehicle' means any vehicle as defined in Article 2(d) of Directive 2003/37/EC.

<sup>(1)</sup> OJ C 44, 16.2.2008, p. 34.

<sup>(2)</sup> Opinion of the European Parliament of 19 February 2008 (not yet published in the Official Journal) and Council Decision of 22 June 2009.

<sup>(3)</sup> OJ L 147, 9.6.1975, p. 28.

<sup>(4)</sup> See Annex XII, Part A.

<sup>(5)</sup> OJ L 171, 9.7.2003, p. 1.

*Article 2*

1. Member States may not, on grounds relating to electromagnetic compatibility:

- refuse to grant EC type-approval or national type-approval in respect of any given type of vehicle,
- refuse to grant EC component or technical unit type-approval in respect of any given type of component or separate technical unit,
- prohibit the registration, sale or entry into service of vehicles,
- prohibit the sale or use of components or separate technical units,

if the vehicles, components or separate technical units comply with the requirements of this Directive.

2. Member States

- may not grant EC vehicle type-approval, EC component type-approval or EC separate technical unit type-approval, and
- may refuse to grant national type-approval,

for any type of vehicle, component or separate technical unit, if the requirements of this Directive are not fulfilled.

3. Paragraph 2 shall not apply to vehicle types approved before 1 October 2002 pursuant to Council Directive 77/537/EEC of 28 June 1977 on the approximation of the laws of the Member States relating to the measures to be taken against the emission of pollutants from diesel engines for use in wheeled agricultural or forestry tractors <sup>(1)</sup> or to any subsequent extensions to those approvals.

4. Member States:

- shall consider certificates of conformity which accompany new vehicles in accordance with Directive 2003/37/EC to be not valid for the purposes of Article 7(1) of that Directive, and

- may refuse the sale and entry into service of new electrical or electronic sub-assemblies as components or separate technical units,

if the requirements of this Directive are not fulfilled.

5. Without prejudice to paragraphs 2 and 4, in the case of replacement parts, Member States shall continue to grant EC type-approval and to permit the sale and entry into service of components or separate technical units intended for use on vehicle types which have been approved before 1 October 2002 pursuant to Directive 75/322/EEC or Directive 77/537/EEC and, where applicable, subsequent extensions to those approvals.

*Article 3*

This Directive shall constitute 'another Community directive' for the purposes of Article 1(4) of Directive 2004/108/EC of the European Parliament and of the Council of 15 December 2004 on the approximation of the laws of the Member States relating to electromagnetic compatibility <sup>(2)</sup>.

*Article 4*

The amendments necessary to adapt to technical progress the requirements of Annexes I to XI shall be adopted in accordance with the procedure referred to in Article 20(3) of Directive 2003/37/EC.

*Article 5*

Member States shall communicate to the Commission the text of the main provisions of national law which they adopt in the field covered by this Directive.

*Article 6*

Directive 75/322/EEC, as amended by the acts listed in Annex XII, Part A, is repealed, without prejudice to the obligations of the Member States relating to the time-limits for transposition into national law and application of the Directives set out in Annex XII, Part B.

References to the repealed Directive shall be construed as references to this Directive and shall be read in accordance with the correlation table in Annex XIII.

<sup>(1)</sup> OJ L 220, 29.8.1977, p. 38.

<sup>(2)</sup> OJ L 390, 31.12.2004, p. 24.

*Article 7*

This Directive shall enter into force on the twentieth day following its publication in the Official Journal of the European Union.

It shall apply from 1 January 2010.

*Article 8*

This Directive is addressed to the Member States.

Done at Brussels, 13 July 2009.

*For the European Parliament*  
*The President*  
H.- G. PÖTTERING

*For the Council*  
*The President*  
E. ERLANDSSON

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## ANNEX I

**REQUIREMENTS TO BE MET BY VEHICLES AND ELECTRICAL/ELECTRONIC SUB-ASSEMBLIES FITTED TO A VEHICLE**

## 1. SCOPE

- 1.1. This Directive applies to the electromagnetic compatibility of vehicles covered by Article 1. It also applies to electrical or electronic separate technical units intended to be fitted to the vehicles.

## 2. DEFINITIONS

2.1. *For the purposes of this Directive*

- 2.1.1. 'Electromagnetic compatibility' means the ability of a vehicle or component(s) or separate technical unit(s) to function satisfactorily in its electromagnetic environment without introducing intolerable electromagnetic disturbances to anything in that environment.
- 2.1.2. 'Electromagnetic disturbance' means any electromagnetic phenomenon which may degrade the performance of a vehicle or component(s) or separate technical unit(s). An electromagnetic disturbance may be electromagnetic noise, an unwanted signal or a change in the propagation medium itself.
- 2.1.3. 'Electromagnetic immunity' means the ability of a vehicle or component(s) or separate technical unit(s) to perform without degradation of performance in the presence of specified electromagnetic disturbances.
- 2.1.4. 'Electromagnetic environment' means the totality of electromagnetic phenomena existing at a given location.
- 2.1.5. 'Reference limit' means the nominal level to which type-approval and conformity of production limit values are referenced.
- 2.1.6. 'Reference antenna' for the frequency range 20 to 80 MHz: means a shortened balanced dipole being a half wave resonant dipole at 80 MHz, and for the frequency range above 80 MHz: means a balanced half wave resonant dipole tuned to the measurement frequency.
- 2.1.7. 'Broadband emission' means an emission which has a bandwidth greater than that of a particular measuring apparatus or receiver.
- 2.1.8. 'Narrowband emission' means an emission which has a bandwidth less than that of a particular measuring apparatus or receiver.
- 2.1.9. 'Electrical/electronic system' means (an) electrical and/or electronic device(s) or set(s) of devices together with any associated electrical connections which form part of a vehicle but which are not intended to be type approved separately from the vehicle.
- 2.1.10. 'Electrical/electronic sub-assembly' (ESA) means an electrical and/or electronic device or set(s) of devices intended to be part of a vehicle, together with any associated electrical connections and wiring, which performs one or more specialised functions. An ESA may be approved at the request of a manufacturer as either a 'component' or a 'separate technical unit (STU)' (see Article 4(1)(c) of Directive 2003/37/EC).
- 2.1.11. 'Vehicle type' in relation to electromagnetic compatibility means vehicles which do not differ essentially in such respects as:
- 2.1.11.1. the overall size and shape of the engine compartment;
- 2.1.11.2. the general arrangement of the electrical and/or electronic components and the general wiring arrangement;

- 2.1.11.3. the primary material of which the body or shell (if applicable) of the vehicle is constructed (for example, a steel, aluminium or fibreglass body shell); the presence of panels of different material does not change the vehicle type provided the primary material of the body is unchanged; however, such variations must be notified.
- 2.1.12. An 'ESA type' in relation to electromagnetic compatibility means ESAs which do not differ in such essential respects as:
- 2.1.12.1. the function performed by the ESA;
- 2.1.12.2. the general arrangement of the electrical and/or electronic components, if applicable.
3. APPLICATION FOR EC TYPE-APPROVAL
- 3.1. *Approval of a vehicle type*
- 3.1.1. The application for approval of a vehicle type, with regard to its electromagnetic compatibility pursuant to Article 4(1) of Directive 2003/37/EC shall be submitted by the vehicle manufacturer.
- 3.1.2. A model for the information document is set out in Annex II.
- 3.1.3. The vehicle manufacturer shall draw up a schedule describing all projected combinations of relevant vehicle electrical/electronic systems or ESAs, body styles <sup>(1)</sup>, variations in body material <sup>(1)</sup>, general wiring arrangements, engine variations, left-hand/right-hand drive versions and wheelbase versions. Relevant vehicle electrical/electronic systems or ESAs are those which may emit significant broadband or narrowband radiation and/or those which are involved in the driver's direct control (see point 6.4.2.3) of the vehicle.
- 3.1.4. A representative vehicle shall be selected from this schedule for the purpose of being tested, in mutual agreement between the manufacturer and the competent authority. This vehicle shall represent the vehicle type (see Appendix 1 of Annex II). The choice of vehicle shall be based on the electrical/electronic systems offered by the manufacturer. One more vehicle may be selected from this schedule for the purpose of being tested if it is considered by mutual agreement between the manufacturer and the competent authority that different electrical/electronic systems are included which are likely to have a significant effect on the vehicle's electromagnetic compatibility compared with the first representative vehicle.
- 3.1.5. The choice of the vehicle(s) in conformity with point 3.1.4 is limited to vehicle/electrical/electronic system combinations intended for actual production.
- 3.1.6. The manufacturer may supplement the application with a report from tests which have been carried out. Any such data provided may be used by the approval authority for the purpose of drawing up the EC type-approval certificate.
- 3.1.7. If the technical service responsible for the type-approval test carries out the test itself, then a vehicle representative of the type to be approved, according to point 3.1.4 shall be provided.
- 3.2. *Approval of a type of ESA*
- 3.2.1. The application for approval of a type of ESA with regard to its electromagnetic compatibility pursuant to Article 4(1) of Directive 2003/37/EC shall be submitted by the vehicle manufacturer or by the manufacturer of the ESA.
- 3.2.2. A model for the information document is set out in Annex III.
- 3.2.3. The manufacturer may supplement the application with a report from tests which have been carried out. Any such data provided may be used by the approval authority for the purpose of drawing up the EC type-approval certificate.
- 3.2.4. If the technical service responsible for the type-approval test carries out the test itself, then a sample of the ESA system representative of the type to be approved shall be provided, if necessary, after discussion with the manufacturer on, for example, possible variations in the layout, the number of components and the number of sensors. If the technical service deems it necessary, it may select a further sample.

(<sup>1</sup>) If applicable.

3.2.5. The sample(s) must be clearly and indelibly marked with the manufacturer's trade name or mark and the type designation.

3.2.6. Where applicable, any restrictions on use shall be identified. Any such restrictions shall be included in the information document set out in Annex III and/or in the EC type-approval certificate set out in Annex V.

#### 4. TYPE-APPROVAL

##### 4.1. *Routes to type-approval*

###### 4.1.1. Type-approval of a vehicle

The following alternative routes to type-approval of a vehicle may be used at the discretion of the vehicle manufacturer.

###### 4.1.1.1. Approval of a vehicle installation

A vehicle installation may achieve type-approval directly by following the provisions laid down in point 6. If this route is chosen by a vehicle manufacturer, no separate testing of electrical/electronic systems or ESAs is required.

###### 4.1.1.2. Approval of vehicle type by testing of individual ESAs

A vehicle manufacturer may obtain approval for the vehicle by demonstrating to the approval authority that all the relevant (see point 3.1.3) electrical/electronic systems or ESAs have individually been approved in accordance with this Directive and have been installed in accordance with any conditions attached thereto.

4.1.1.3. A manufacturer, if he wishes, may obtain approval pursuant to this Directive if the vehicle has no equipment of the type which is subject to immunity or emission tests. The vehicle shall have no systems as specified in point 3.1.3 (immunity) and no spark ignition equipment. Such approvals shall not require testing.

###### 4.1.2. Type-approval of an ESA

Type-approval may be granted to an ESA to be fitted either to any vehicle type or to a specific vehicle type or types requested by the manufacturer. ESAs involved in the direct control of vehicles will normally receive type-approval in conjunction with a vehicle manufacturer.

##### 4.2. *Granting of type-approval*

###### 4.2.1. Vehicle

4.2.1.1. If the representative vehicle fulfils the requirements of this Directive, EC type-approval pursuant to Article 4 of Directive 2003/37/EC shall be granted.

4.2.1.2. A model for the EC type-approval certificate is set out in Annex IV.

###### 4.2.2. ESA

4.2.2.1. If the representative ESA system(s) fulfil(s) the requirements of this Directive, EC type-approval pursuant to Article 4 of Directive 2003/37/EC shall be granted.

4.2.2.2. A model for the EC type-approval certificate is given in Annex V.

4.2.3. In order to draw up the certificates referred to in point 4.2.1.2 or 4.2.2.2, the competent authority of the Member State granting the approval may use a report prepared by an approved or recognised laboratory or in accordance with the provisions of this Directive.

- 4.3. *Amendments to approvals*
- 4.3.1. In the case of amendments to approvals granted pursuant to this Directive, the provisions of Article 5(2) and (3) of Directive 2003/37/EC shall apply.
- 4.3.2. Amendment of a vehicle type-approval by ESA addition or substitution
- 4.3.2.1. Where a vehicle manufacturer has obtained approval for a vehicle installation and wishes to fit an additional or substitutional electrical/electronic system or ESA which has already received approval pursuant to this Directive, and which will be installed in accordance with any conditions attached thereto, the vehicle approval may be amended without further testing. The additional or substitutional electrical/electronic system or ESA shall be considered as part of the vehicle for conformity of production purposes.
- 4.3.2.2. Where the additional or substitutional part(s) has (have) not received approval pursuant to this Directive, and if testing is considered necessary, the whole vehicle shall be deemed to comply if the new or revised part(s) can be shown to comply with the relevant requirements of point 6 or if, in a comparative test, the new part can be shown not to be likely to adversely affect compliance of the vehicle type.
- 4.3.2.3. The addition by a vehicle manufacturer to an approved vehicle of standard domestic or business equipment, other than mobile communication equipment <sup>(1)</sup> which complies with Directive 2004/108/EC, and is installed according to the recommendations of the equipment and vehicle manufacturers, or the substitution or removal thereof, shall not invalidate the vehicle approval. This shall not preclude vehicle manufacturers fitting communication equipment with suitable installations guidelines developed by the vehicle manufacturer and/or manufacturer(s) of such communication equipment. The vehicle manufacturer shall provide evidence (if requested by the test authority) that vehicle performance is not adversely affected by such transmitters. This may be a statement that the power levels and installation are such that the immunity levels of this Directive offer sufficient protection when subject to transmission alone, namely excluding transmission in conjunction with the tests specified in point 6. This Directive does not authorise the use of a communication transmitter when other requirements on such equipment or its use apply. A vehicle manufacturer may refuse to install in his vehicle standard domestic or business equipment which complies with Directive 2004/108/EC.
5. MARKING
- 5.1. Every ESA conforming to a type approved pursuant to this Directive shall bear an EC type-approval mark.
- 5.2. This mark shall consist of a rectangle surrounding the letter 'e' followed by the distinguishing number of the Member State which has granted EC type-approval:
- 1 for Germany; 2 for France; 3 for Italy; 4 for the Netherlands; 5 for Sweden; 6 for Belgium; 7 for Hungary; 8 for the Czech Republic; 9 for Spain; 11 for the United Kingdom; 12 for Austria; 13 for Luxembourg; 17 for Finland; 18 for Denmark; 19 for Romania; 20 for Poland; 21 for Portugal; 23 for Greece; 24 for Ireland; 26 for Slovenia; 27 for Slovakia; 29 for Estonia; 32 for Latvia; 34 for Bulgaria; 36 for Lithuania; 49 for Cyprus; 50 for Malta.
- It must also include in the vicinity of the rectangle the four-digit sequential number (with leading zeros as applicable) — hereinafter referred to as the 'base approval number' — contained in Section 4 of the type-approval number shown on the EC type-approval certificate issued for the type of device in question (see Annex V), preceded by the two figures indicating the sequence number assigned to the most recent major technical amendment to Directive 75/322/EEC, as replaced by this Directive, on the date EC component type-approval was granted.
- 5.3. The EC type-approval mark must be affixed to the main part of the ESA (for example the electronic control unit) in such a way as to be clearly legible and indelible.
- 5.4. An example of the EC type-approval mark is set out in Appendix 7.
- 5.5. No marking is required for electrical/electronic systems included in vehicle types approved by this Directive.
- 5.6. Markings on ESAs in compliance with point 5.3 need not be visible when the ESA is installed in a vehicle.

(1) For example: radio telephone and citizens' band radio.

## 6. SPECIFICATIONS

### 6.1. *General specification*

- 6.1.1. A vehicle (and its electrical/electronic system(s) or ESAs) shall be so designed, constructed and fitted as to enable the vehicle, in normal conditions of use, to comply with the requirements of this Directive.

### 6.2. *Specifications concerning broadband electromagnetic radiation from vehicles fitted with spark ignition*

#### 6.2.1. Method of measurement

The electromagnetic radiation generated by the vehicle representative of its type shall be measured using the method described in Annex VI at either of the defined antenna distances. The choice shall be made by the vehicle manufacturer.

#### 6.2.2. Vehicle broadband reference limits

- 6.2.2.1. If measurements are made using the method described in Annex VI using a vehicle-to-antenna spacing of  $10,0 \pm 0,2$  m, the radiation reference limits shall be 34 dB microvolts/m (50 microvolts/m) in the 30 to 75 MHz frequency band and 34 to 45 dB microvolts/m (50 to 180 microvolts/m) in the 75 to 400 MHz frequency band, this limit increasing logarithmically (linearly) with frequencies above 75 MHz as shown in Appendix 1 of this Annex. In the 400 to 1 000 MHz frequency band the limit remains constant at 45 dB microvolts/m (180 microvolts/m).

- 6.2.2.2. If measurements are made using the method described in Annex VI using a vehicle-to-antenna spacing of  $3,0 \pm 0,05$  m, the radiation reference limits shall be 44 dB microvolts/m (160 microvolts/m) in the 30 to 75 MHz frequency band and 44 to 55 dB microvolts/m (160 to 562 microvolts/m) in the 75 to 400 MHz frequency band, this limit increasing logarithmically (linearly) with frequencies above 75 MHz as shown in Appendix 2 of this Annex. In the 400 to 1 000 MHz frequency band the limit remains constant at 55 dB microvolts/m (562 microvolts/m).

- 6.2.2.3. On the vehicle representative of its type, the measured values, expressed in dB microvolts/m (microvolts/m), shall be at least 2,0 dB (20 %) below the reference limits.

### 6.3. *Specifications concerning narrowband electromagnetic radiation from vehicles*

#### 6.3.1. Method of measurement

The electromagnetic radiation generated by the vehicle representative of its type shall be measured using the method described in Annex VII at either of the defined antenna distances. The choice shall be made by the vehicle manufacturer.

#### 6.3.2. Vehicle narrowband reference limits

- 6.3.2.1. If measurements are made using the method described in Annex VII using a vehicle-to-antenna spacing of  $10,0 \pm 0,2$  m, the radiation-reference limits shall be 24 dB microvolts/m (16 microvolts/m) in the 30 to 75 MHz frequency band and 24 to 35 dB microvolts/m (16 to 56 microvolts/m) in the 75 to 400 MHz frequency band, this limit increasing logarithmically (linearly) with frequencies above 75 MHz as shown in Appendix 3 of this Annex. In the 400 to 1 000 MHz frequency band the limit remains constant at 35 dB microvolts/m (56 microvolts/m).

- 6.3.2.2. If measurements are made using the method described in Annex VII using a vehicle-to-antenna spacing of  $3,0 \pm 0,05$  m, the radiation reference limit shall be 34 dB microvolts/m (50 microvolts/m) in the 30 to 75 MHz frequency band and 34 to 45 dB microvolts/m (50 to 180 microvolts/m) in the 75 to 400 MHz frequency band, this limit increasing logarithmically (linearly) with frequencies above 75 MHz as shown in Appendix 4 of this Annex. In the 400 to 1 000 MHz frequency band the limit remains constant at 45 dB microvolts/m (180 microvolts/m).

- 6.3.2.3. On the vehicle representative of its type, the measured values, expressed in dB microvolts/m (microvolts/m), shall be at least 2,0 dB (20 %) below the reference limit.

- 6.3.2.4. Notwithstanding the limits defined in points 6.3.2.1, 6.3.2.2 and 6.3.2.3 of this Annex, if, during the initial step described in point 1.3 of Annex VII, the signal strength measured at the vehicle broadcast radio antenna is less than 20 dB microvolts/m (10 microvolts/m) over the frequency range 88 to 108 MHz, then the vehicle shall be deemed to comply with the limits for narrowband emissions and no further testing will be required.

- 6.4. *Specifications concerning immunity of vehicles to electromagnetic radiation*
- 6.4.1. Method of testing
- The immunity to electromagnetic radiation of the vehicle representative of its type shall be tested by the method described in Annex VIII.
- 6.4.2. Vehicle immunity reference limits
- 6.4.2.1. If tests are made using the method described in Annex VIII, the field strength reference level shall be 24 volts/m rms in over 90 % of the 20 to 1 000 MHz frequency band and 20 volts/m rms over the whole 20 to 1 000 MHz frequency band.
- 6.4.2.2. The vehicle representative of its type shall be considered as complying with immunity requirements if, during the tests performed in accordance with Annex VIII, and subjected to a field strength, expressed in volts/m, of 25 % above the reference level, there shall be no abnormal change in the speed of the driven wheels of the vehicle, no degradation of performance which would cause confusion to other road users, and no degradation in the driver's direct control of the vehicle which could be observed by the driver or other road user.
- 6.4.2.3. The driver's direct control of the vehicle is exercised by means of, for example, steering, braking, or engine speed control.
- 6.5. *Specification concerning broadband electromagnetic interference generated by ESAs*
- 6.5.1. Method of measurement
- The electromagnetic radiation generated by the ESA representative of its type shall be measured by the method described in Annex IX.
- 6.5.2. ESA broadband reference limits
- 6.5.2.1. If measurements are made using the method described in Annex IX, the radiation reference limits shall be 64 to 54 dB microvolts/m (1 600 to 500 microvolts/m) in the 30 to 75 MHz frequency band, this limit decreasing logarithmically (linearly) with frequencies above 30 MHz, and 54 to 65 dB microvolts/m (500 to 1 800 microvolts/m) in the 75 to 400 MHz band, this limit increasing logarithmically (linearly) with frequencies above 75 MHz as shown in Appendix 5 of this Annex. In the 400 to 1 000 MHz frequency band the limit remains constant at 65 dB microvolts/m (1 800 microvolts/m).
- 6.5.2.2. On the ESA representative of its type, the measured values, expressed in dB microvolts/m, (microvolts/m) shall be at least 2,0 dB (20 %) below the reference limits.
- 6.6. *Specifications concerning narrowband electromagnetic interference generated by ESAs*
- 6.6.1. Method of measurement
- The electromagnetic radiation generated by the ESA representative of its type shall be measured by the method described in Annex X.
- 6.6.2. ESA narrowband reference limits
- 6.6.2.1. If measures are made using the method described in Annex X, the radiation reference limits shall be 54 to 44 dB microvolts/m (500 to 160 microvolts/m) in the 30 to 75 MHz frequency band, this limit decreasing logarithmically (linearly) with frequencies above 30 MHz, and 44 to 55 dB microvolts/m (160 to 560 microvolts/m) in the 75 to 400 MHz band, this limit increasing logarithmically (linearly) with frequencies above 75 MHz as shown in Appendix 6 of this Annex. In the 400 to 1 000 MHz frequency band the limit remains constant at 55 dB microvolts/m (560 microvolts/m).
- 6.6.2.2. On the ESA representative of its type, the measured value, expressed in dB microvolts/m (microvolts/m) shall be at least 2,0 dB (20 %) below the reference limits.
- 6.7. *Specifications concerning immunity of ESAs to electromagnetic radiation*
- 6.7.1. Method(s) of testing
- The immunity to electromagnetic radiation of the ESA representative of its type shall be tested by the method(s) chosen from those described in Annex XI.

6.7.2. ESA immunity reference limits

- 6.7.2.1. If tests are made using the methods described in Annex XI, the immunity test reference levels shall be 48 volts/m for the 150 mm stripline testing method, 12 volts/m for the 800 mm stripline testing method, 60 volts/m for the transverse electromagnetic mode (TEM) cell testing method, 48 mA for the bulk current injection (BCI) testing method and 24 volts/m for the free field testing method.
- 6.7.2.2. On the ESA representative of its type at a field strength or current expressed in appropriate linear units 25 % above the reference limit, the ESA shall not exhibit any malfunction which would cause any degradation of performance which could cause confusion to other road users or any degradation in the driver's direct control of a vehicle fitted with the system which could be observed by the driver or other road user.

7. CONFORMITY OF PRODUCTION

- 7.1. Conformity of production with regard to the electromagnetic compatibility of the vehicle or component of separate technical unit shall be checked on the basis of the data contained in the EC type-approval certificate(s) set out in Annex IV and/or Annex V as appropriate.
- 7.2. If the conformity of a vehicle, component or STU taken from the series is being verified, production shall be deemed to conform to the requirements of this Directive in relation to broadband radiated emissions and narrowband radiated emissions if the levels measured do not exceed by more than 2 dB, (25 %) the reference limits prescribed in points 6.2.2.1, 6.2.2.2, 6.3.2.1 and 6.3.2.2 (as appropriate).
- 7.3. If the conformity of a vehicle, component or STU taken from the series is being verified, production shall be deemed to conform to the requirements of this Directive in relation to immunity to electromagnetic radiation if the vehicle, component or STU does not exhibit any degradation relating to the direct control of the vehicle which could be observed by the driver or other road user when the vehicle, component or STU is in the state defined in point 4 of Annex VIII and subjected to a field strength, expressed in volts/m, up to 80 % of the reference limits prescribed in point 6.4.2.1 of this Annex.

8. EXCEPTIONS

- 8.1. Where a vehicle or electrical/electronic system or ESA does not include an electronic oscillator with an operating frequency greater than 9 kHz, it shall be deemed to comply with point 6.3.2 or 6.6.2 of this Annex and with Annexes VII and X.
- 8.2. Vehicles which do not have electrical/electronic systems or ESAs involved in the direct control of the vehicle need not be tested for immunity and shall be deemed to comply with point 6.4 of this Annex and with Annex VIII.
- 8.3. ESAs whose functions are not involved in the direct control of the vehicle need not be tested for immunity and shall be deemed to comply with point 6.7 of this Annex and with Annex XI.

8.4. *Electrostatic discharge*

For vehicles fitted with tyres, the vehicle body/chassis can be considered to be an electrically isolated structure. Significant electrostatic forces in relation to the vehicle's external environment only occur at the moment of occupant entry into or exit from the vehicle. As the vehicle is stationary at these moments, no type-approval test for electrostatic discharge is deemed necessary.

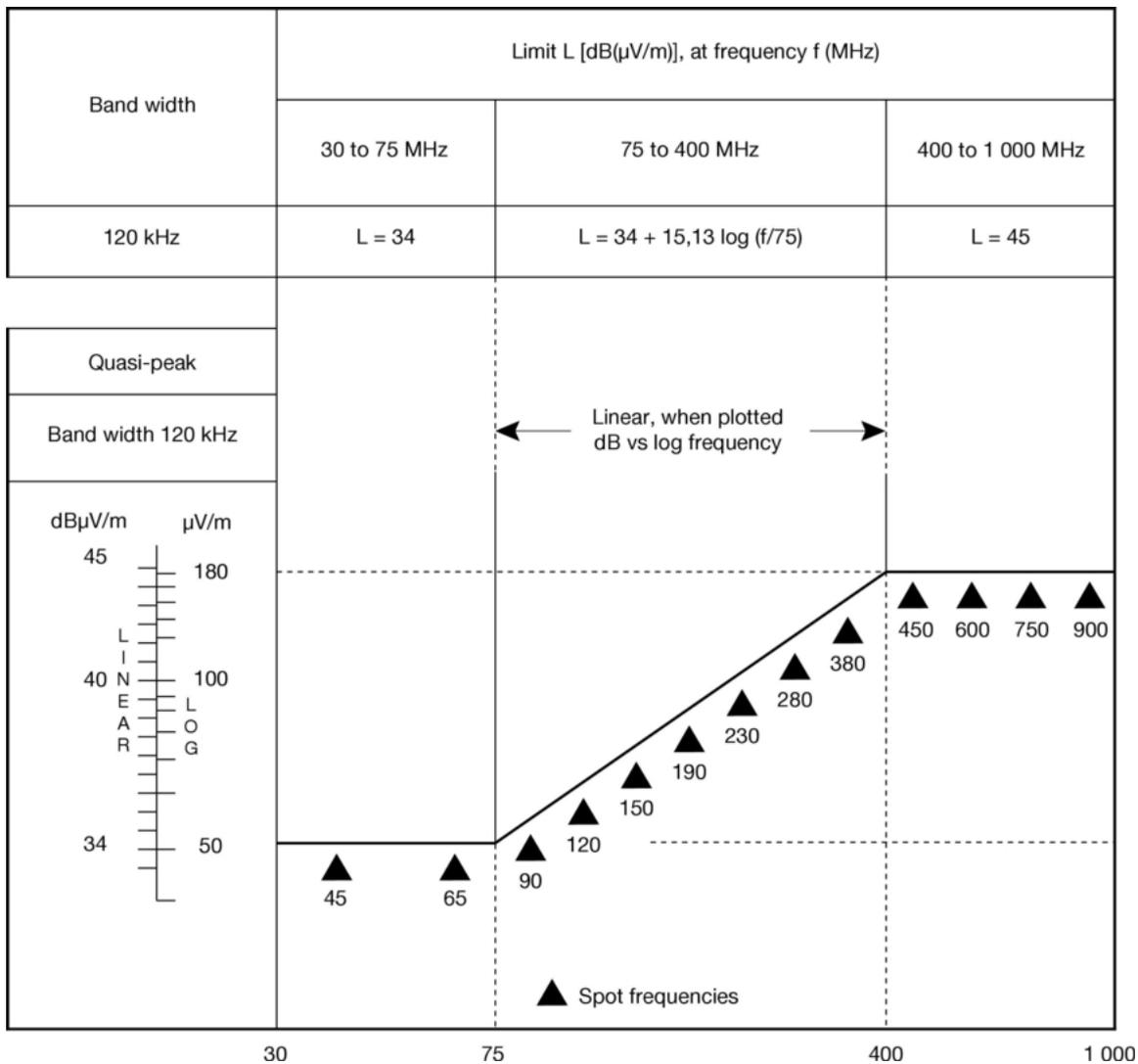
8.5. *Conducted transients*

Since during normal driving, no external electrical connections are made to vehicles, no conducted transients are generated in relation to the external environment. The responsibility of ensuring that equipment can tolerate the conducted transients within a vehicle, for example due to load switching and interaction between systems, lies with the manufacturer. No type-approval test for conducted transients is deemed necessary.

Appendix 1

**Vehicle broadband reference limits**

Antenna-vehicle separation: 10 m



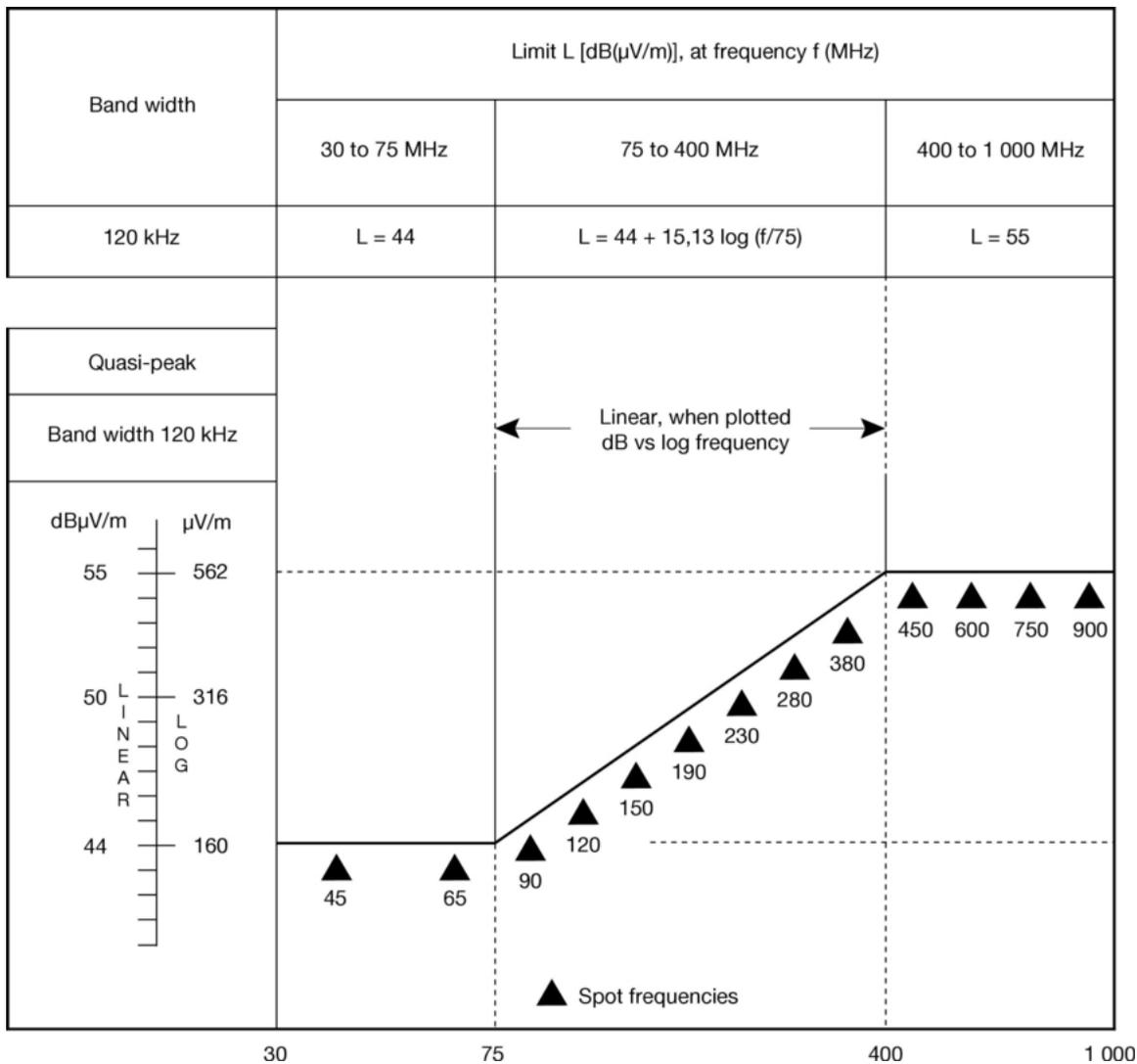
Frequency — megahertz — logarithmic

See point 6.2.2.1 of Annex I

Appendix 2

Vehicle broadband reference limits

Antenna-vehicle separation: 3 m



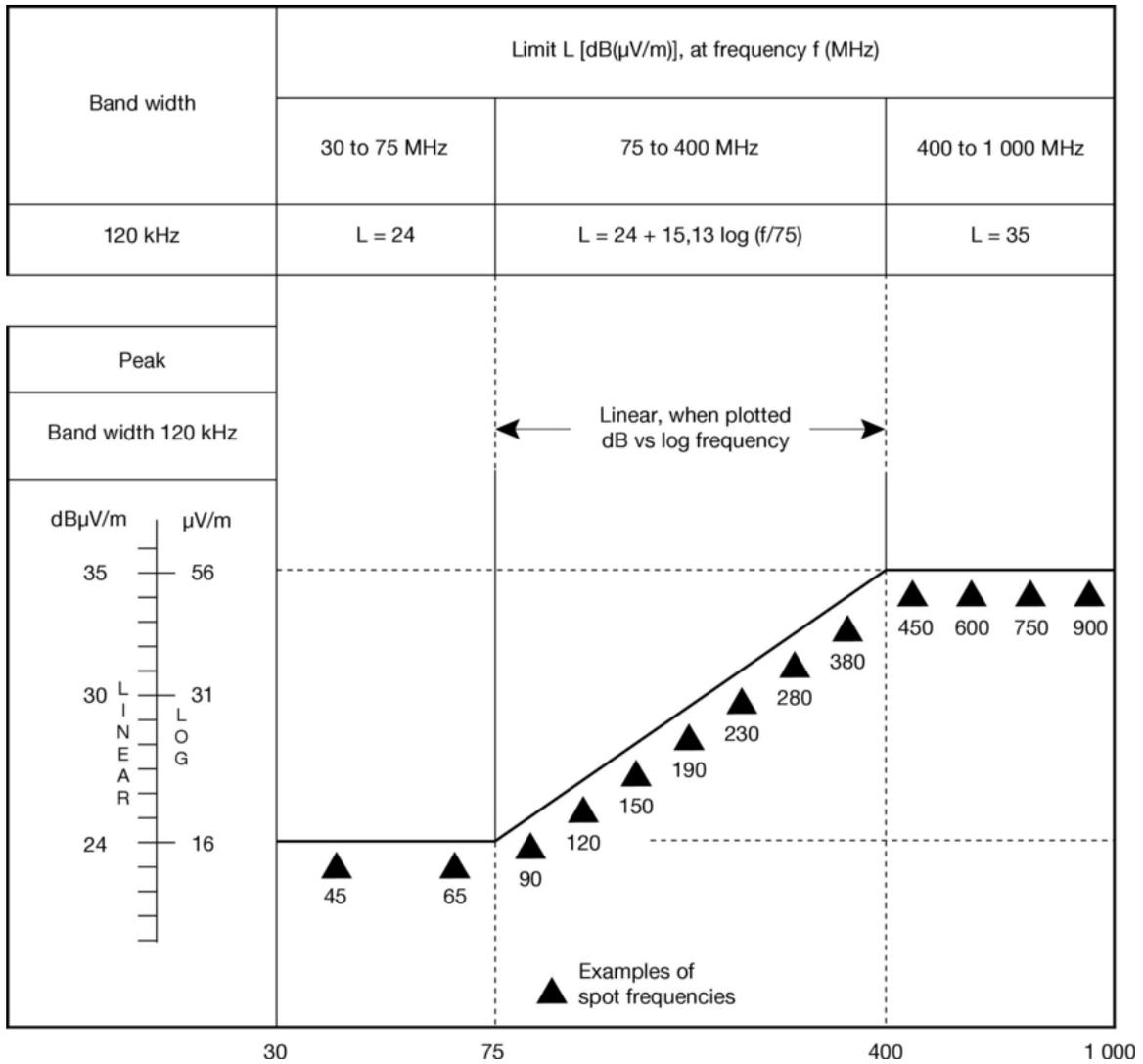
Frequency — megahertz — logarithmic

See point 6.2.2.2 of Annex I

Appendix 3

**Vehicle narrowband reference limits**

Antenna-vehicle separation: 10 m



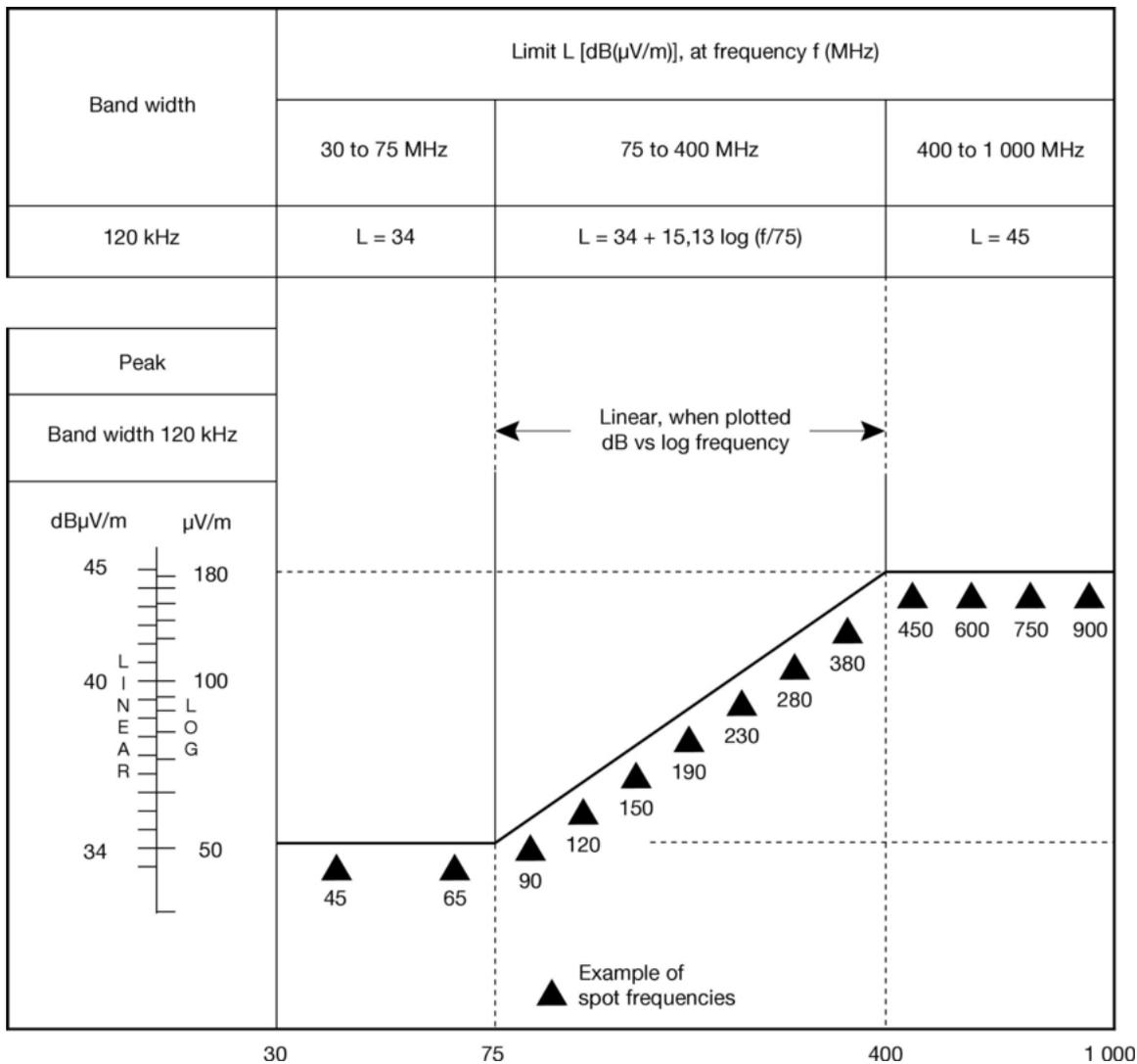
Frequency — megahertz — logarithmic

See point 6.3.2.1 of Annex I

Appendix 4

Vehicle narrowband reference limits

Antenna-vehicle separation: 3 m

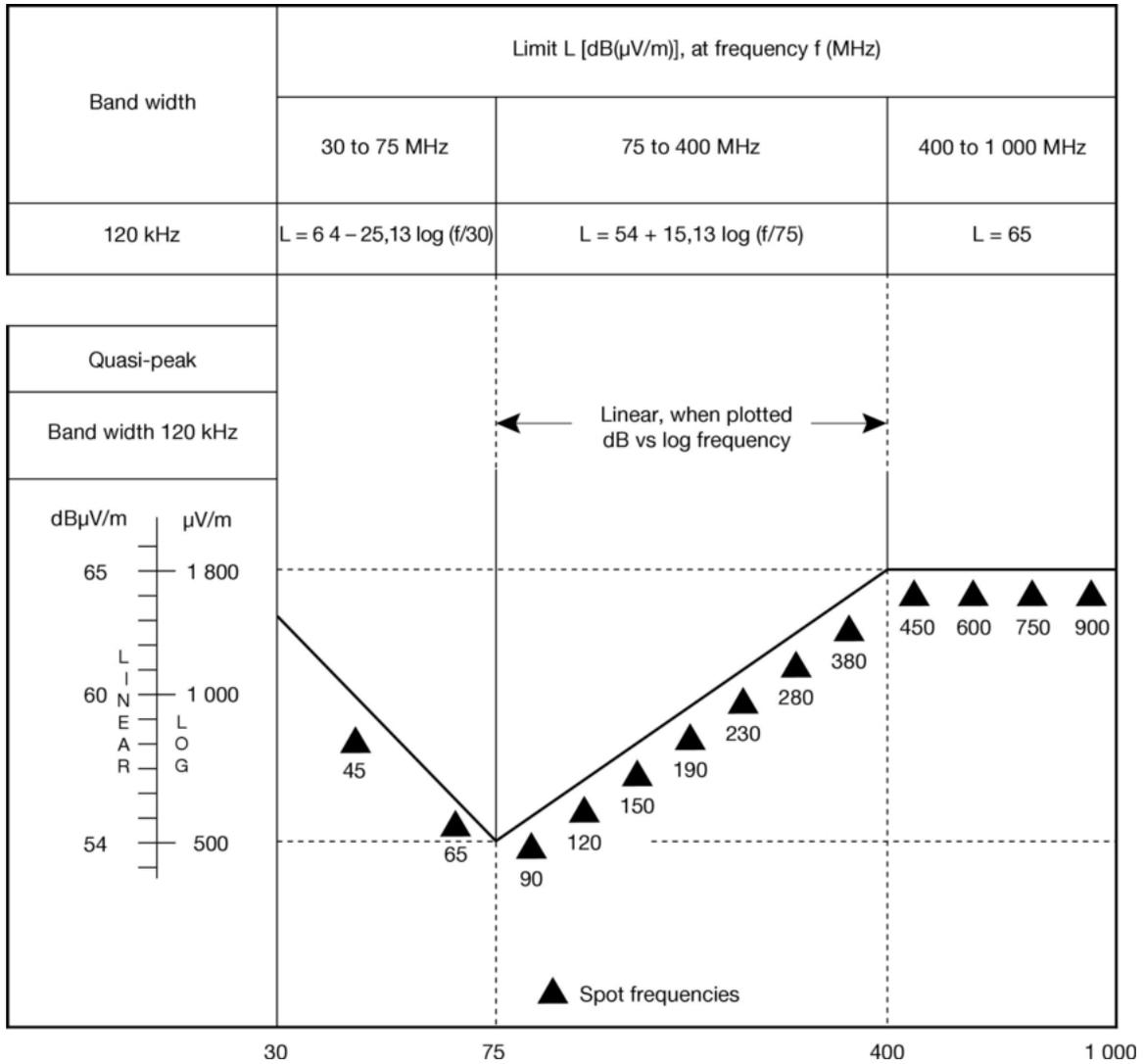


Frequency — megahertz — logarithmic

See point 6.3.2.2 of Annex I

Appendix 5

Broadband reference limits of electrical/electronic sub-assembly

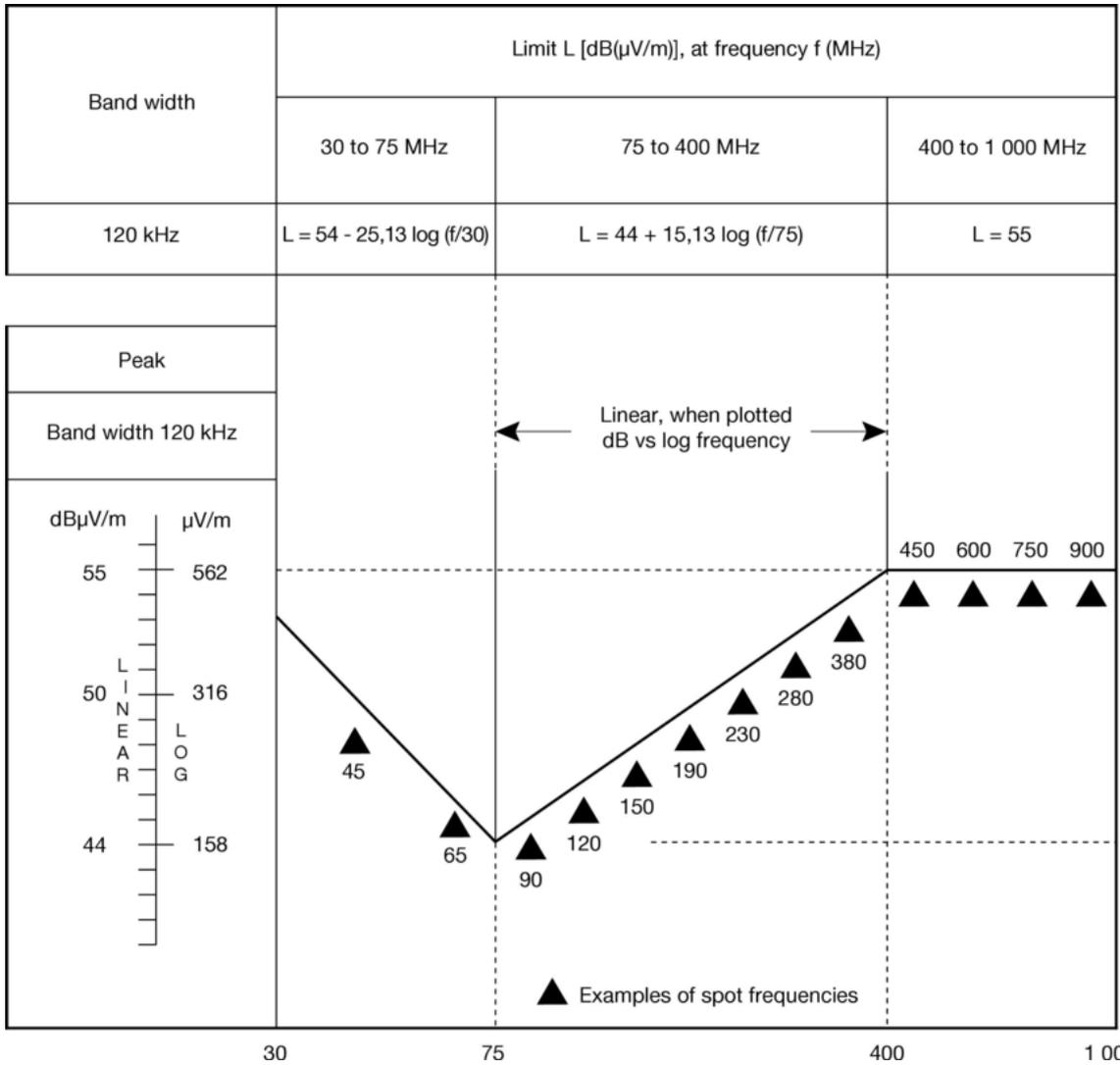


Frequency — megahertz — logarithmic

See point 6.5.2.1 of Annex I

Appendix 6

Narrowband reference limits of electrical/electronic sub-assembly

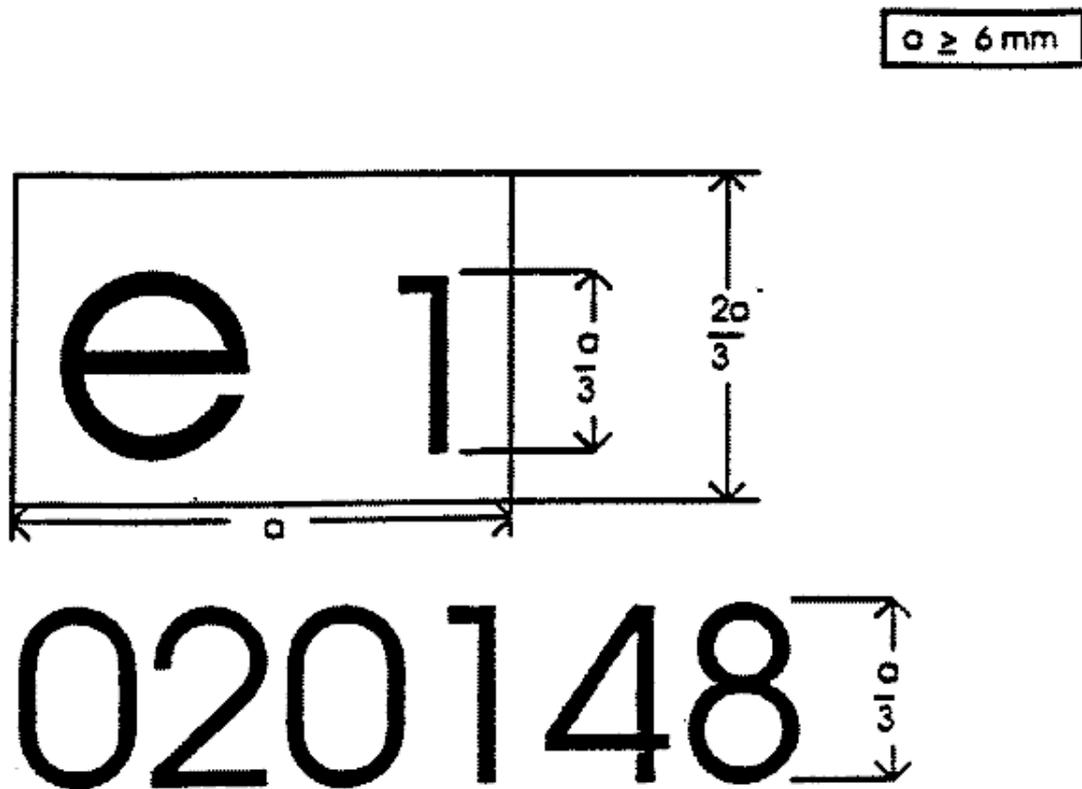


Frequency — megahertz — logarithmic

See point 6.6.2.1 of Annex I

## Appendix 7

## Example of the EC type-approval mark



The ESA bearing the above EC type-approval mark is a device which has been approved in Germany (e1) under the base approval number 0148. The first two digits (02) indicate that the device conforms with the requirements of Directive 75/322/EEC, as amended by Directive 2000/2/EC.

The figures used are only indicative.

## ANNEX II

**Information document No ... pursuant to Annex I to Directive 2003/37/EC relating to EC type-approval of an agricultural or forestry tractor concerning electromagnetic compatibility (Directive 2009/64/EC)**

The following information, if applicable, must be supplied in triplicate and include a list of contents. Any drawings must be supplied in appropriate scale and in sufficient detail on size A4 or on a folder of A4 format.

Photographs, if any, must show sufficient detail. Details must be provided of the working of any systems, components or technical units with electronic controls.

0. General
  - 0.1. Make(s) (trade mark registered by the manufacturer):
  - 0.2. Type (specify any variants and versions):
  - 0.3. Means of identification of type, if marked on the vehicle:
    - 0.3.1. Manufacturer's plate (location and method of affixing):
  - 0.4. Category of vehicle:
  - 0.5. Name and address of manufacturer:
  - 0.8. Name(s) and address(es) of assembly plant(s):
1. General construction characteristics of the vehicle
  - Photograph(s) and/or drawings of a representative vehicle:
  - 1.2. Position and arrangement of the engine:
3. Engine
  - 3.1.2. Type and commercial description of the parent engine (as marked on the engine or other means of identification):
  - 3.1.4. Name and address of manufacturer:
  - 3.1.6. Operating principle:
    - spark ignition/compression ignition <sup>(1)</sup>
    - direct injection/injection <sup>(1)</sup>
    - four stroke/two stroke <sup>(1)</sup>
  - 3.2.1.6. Number and arrangement of cylinders:
  - 3.2.1.9. Maximum torque ... min<sup>-1</sup>
  - 3.2.3. Fuel feed:
    - 3.2.3.1. Feed pump:
      - Pressure <sup>(2)</sup> or characteristic diagram ... kPa
    - 3.2.3.2. Injection system:
      - 3.2.4.2.1. Description of system:

- 3.2.5. Electronic control functions:
  - Description of system:
- 3.11. Electrical system:
  - 3.11.1. Nominal voltage ..., positive/negative earth (1)
  - 3.11.2. Generator:
    - 3.11.2.1. Type
    - 3.11.2.2. Rated power VA
- 4. Transmission
  - 4.2. Type (mechanical hydraulic, electric, etc):
    - 4.2.1. Brief description of the electrical/electronic components (if any):
- 6. Suspension (where appropriate)
  - 6.2.2. Brief description of the electrical/electronic components (if any):
- 7. Steering
  - 7.2.2.1. Brief description of the electrical/electronic components (if any):
  - 7.2.6. Range and method of adjustment, if any, of the steering control:
- 8. Brakes
  - 8.5. For tractors with anti-lock brake systems, description of system operation (including any electronic parts), electric block diagram hydraulic or pneumatic circuit plan:
- 9. Field of vision, glazing, windscreen wipers and rear-view mirrors
  - 9.2. Glazing:
    - 9.2.3.4. Brief description of the electrical/electronic components (if fitted) of the side-window operating mechanism:
  - 9.3. Windscreen wipers:
    - Technical description:
  - 9.4. Rear-view mirror(s) (position of each):
    - 9.4.6. Brief description of the electrical/electronic components (if fitted) of the adjusting system:
  - 9.5. Defrosting and demisting:
    - 9.5.1. Technical description:
- 10. Roll-over protective structures, weather protection, seats, load platforms
  - 10.3. Seats and footrests:
    - 10.3.1.4. Position and main characteristics:
    - 10.3.1.5. Adjustment system:
    - 10.3.1.6. Displacement and locking system:

- 10.5. Suppression of radio interference:
  - 10.5.1. Description and drawings/photographs of the shapes and constituent materials of the part of the body forming the engine compartment and adjacent parts of the passenger compartment:
  - 10.5.2. Drawings or photographs of the position of the metal components housed in the engine compartment (e.g. heating appliances, spare wheel, air filter, steering mechanism, etc.):
  - 10.5.3. Table and drawing of radio interference control equipment:
  - 10.5.4. Particulars of the nominal value of the direct current resistances, and in the case of resistive ignition cables, of their nominal resistance per metre:
- 11. Lighting and light-signalling devices
  - 11.3. Brief description of electrical/electronic components other than lamps (if any):
- 12. Miscellaneous
  - 12.8. Description of the on-board electronics used for the operation and control of the vehicle-mounted or towed implements:

---

(<sup>1</sup>) Delete as appropriate.

(<sup>2</sup>) Indicate tolerance.

---

*Appendix 1*

Description of vehicle chosen to represent the type

Body style:

Left or right-hand drive:

Wheelbase:

Component options:

---

*Appendix 2*

Relevant test report(s) supplied by the manufacturer or approved/recognised laboratories for the purpose of drawing up the EC type-approval certificate.

\_\_\_\_\_

## ANNEX III

**Information document No ... relating to EC type-approval of an electrical/electronic sub-assembly (ESA) with respect to electromagnetic compatibility (Directive 2009/64/EC)**

The following information, if applicable, must be supplied in triplicate and must include a list of contents. Any drawings must be supplied in appropriate scale and in sufficient detail on size A4 or on a folder of A4 format. Photographs, if any, must show sufficient detail.

If the systems, component or separate technical units (stu) have electronic controls, information concerning their performance must be supplied.

## 0. GENERAL

0.1. Make (trade name of manufacturer):

0.2. Type and general commercial description(s):

0.5. Name and address of manufacturer:

0.7. In the case of components and separate technical units, location and method of affixing of the EC approval mark:

0.8. Address(es) of assembly plant(s):

1. THIS ESA SHALL BE APPROVED AS A COMPONENT/STU <sup>(1)</sup>

2. ANY RESTRICTIONS OF USE AND CONDITIONS FOR FITTING:

---

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(<sup>1</sup>) Delete where not applicable.

*Appendix 1*

**Description of the ESA chosen to represent the type:**

\_\_\_\_\_

*Appendix 2*

Relevant test report(s) supplied by the manufacturer or approved/recognised laboratories for the purpose of drawing up the EC type-approval certificate.

—

## ANNEX IV

**MODEL**

(maximum format: A4 (210 × 297 mm))

**EC TYPE-APPROVAL CERTIFICATE****'VEHICLE'**

Stamp of administration

Communication concerning the:

- EC type-approval <sup>(1)</sup>
- extension of EC type-approval <sup>(1)</sup>
- refusal of EC type-approval <sup>(1)</sup>
- withdrawal of EC type-approval <sup>(1)</sup>

of a type of vehicle with regard to Directive 2009/64/EC.

EC type-approval number:

Reason for extension:

## SECTION I

- 0.1. Make (trade name of manufacturer):
- 0.2. Type and general commercial description(s):
- 0.3. Means of identification of type, if marked on the vehicle/component/separate technical unit <sup>(1)</sup> <sup>(2)</sup>:
  - 0.3.1. Location of that marking:
- 0.4. Vehicle:
- 0.5. Name and address of manufacturer:
- 0.8. Address(es) of assembly plant(s):

## SECTION II

1. Additional information (where applicable): See Appendix
2. Technical service responsible for carrying out the tests:
3. Date of test report:
4. Number of test report:
5. Remarks (if any): See Appendix
6. Place:
7. Date:
8. Signature:
9. The index to the information package lodged with the approval authority, which may be obtained on request is attached

---

<sup>(1)</sup> Delete where not applicable.

<sup>(2)</sup> If the means of identification of type contains characters not relevant to describe the vehicle, component or separate technical unit types covered by this type-approval certificate such characters shall be represented in the documentation by the symbol: '?' (for example ABC??123??).

**Appendix to EC type-approval certificate No ... concerning the type-approval of a vehicle with regard to Directive 2009/64/EC**

1. Additional information
  - 1.1. Special devices for the purpose of Annex VI to this Directive (if applicable): (for example ...)
  - 1.2. Electrical system rated voltage: ... V positive/negative ground
  - 1.3. Type of bodywork:
  - 1.4. List of electronic systems installed in the tested vehicle(s) not limited to the items in the information document (see Appendix 1 of Annex II):
  - 1.5. Approved/recognised laboratory (for the purpose of this Directive) responsible for carrying out the tests:
5. Remarks:

(for example valid for both left-hand drive and right-hand drive vehicles)

---

## ANNEX V

**MODEL**

(maximum format: A4 (210 × 297 mm))

**EC TYPE-APPROVAL CERTIFICATE****'ESA'**

Stamp of administration

Communication concerning the:

- EC type-approval <sup>(1)</sup>
- extension of EC type-approval <sup>(1)</sup>
- refusal of EC type-approval <sup>(1)</sup>
- withdrawal of EC type-approval <sup>(1)</sup>

of a type of component/separate technical unit <sup>(1)</sup> with regard to Directive 2009/64/EC.

EC type-approval number:

Reason for extension:

## SECTION I

- 0.1. Make (trade name of manufacturer):
- 0.2. Type and general commercial description(s):
- 0.3. Means of identification of type, if marked on the vehicle/component/separate technical unit <sup>(1)</sup> <sup>(2)</sup>:
  - 0.3.1. Location of that marking:
- 0.4. Vehicle:
- 0.5. Name and address of manufacturer:
- 0.7. In the case of components and separate technical units, location and method of affixing of the EC approval-mark:
- 0.8. Address(es) of assembly plant(s):

## SECTION II

1. Additional information (where applicable): See Appendix
2. Technical service responsible for carrying out the tests:
3. Date of test report:
4. Number of test report:
5. Remarks (if any): See Appendix
6. Place:
7. Date:
8. Signature:
9. The index to the information package lodged with the approval authority, which may be obtained on request is attached.

<sup>(1)</sup> Delete where not applicable.

<sup>(2)</sup> If the means of identification of type contains characters not relevant to describe the vehicle, component or separate technical unit types covered by this type-approval certificate such characters shall be represented in the documentation by the symbol: '?' (for example ABC??123??).

**Appendix to EC type-approval certificate No ... concerning the type-approval of an electrical/electronic sub-assembly with regard to Directive 2009/64/EC**

1. Additional information
    - 1.1. Electrical system rated voltage: ... V
    - 1.2. This ESA can be used on any vehicle type with the following restrictions:
      - 1.2.1. Installation conditions, if any:
    - 1.3. This ESA can only be used on the following vehicle types:
      - 1.3.1. Installation conditions, if any:
    - 1.4. the specific test method(s) used and the frequency ranges covered to determine immunity were: (please specify precise method used from Annex XI)
    - 1.5. Approved/recognised laboratory (for the purpose of this Directive) responsible for carrying out the test.
  5. Remarks:
-

## ANNEX VI

**METHOD OF MEASUREMENT OF RADIATED BROADBAND ELECTROMAGNETIC EMISSIONS FROM VEHICLES**

## 1. GENERAL

1.1. The test method described in this Annex shall only be applied to vehicles.

1.2. *Measuring apparatus*

The measuring equipment shall comply with the requirements of publication No 16-1 (93) of the International Special Committee on Radio Interference (CISPR).

A quasi-peak detector shall be used for the measurement of broadband electromagnetic emissions in this Annex, or if a peak detector is used an appropriate correction factor shall be used depending on the spark pulse rate.

1.3. *Test method*

This test is intended to measure the broadband electromagnetic emissions generated by spark-ignition systems and by electric motors (electric traction motors, engines for heating or de-icing systems, fuel pumps, water pumps, etc.) permanently fitted to the vehicle.

Two alternative reference antenna distances are permissible: 10 or 3 m from the vehicle. In either case the requirements of point 3 shall be complied with.

## 2. EXPRESSION OF RESULTS

The results of measurements shall be expressed in dB microvolts/m (microvol/m) for 120 kHz band width. If the actual band width B (expressed in kHz) of the measuring apparatus differs from 120 kHz, the readings taken in microvolts/m shall be converted to 120 kHz band width through multiplication by a factor  $120/B$ .

## 3. MEASURING LOCATION

3.1. The test site shall be a level, clear area free from electromagnetic reflecting surfaces within a circle of minimum radius 30 m measured from a point midway between the vehicle and the antenna (see Figure 1 in Appendix 1).

3.2. The measuring set, test hut, or vehicle in which the measurement set is located may be within the test site, but only in the permitted region shown in Figure 1 in Appendix 1.

Other measuring antennae are allowed within the test area, at a minimum distance of 10 m both from receiving antenna and the vehicle under test, provided that it can be shown that the test results will not be affected.

3.3. Enclosed test facilities may be used if correlation can be shown between the enclosed test facility and an outdoor site. Enclosed test facilities do not need to meet the dimensional requirements of Figure 1 in Appendix 1 other than the distance from the antenna to the vehicle and the height of the antenna. Neither do they need to have ambient emissions checked before or after the test as indicated in point 3.4.

3.4. *Ambient*

To ensure that there is no extraneous noise or signal of a magnitude sufficient to affect materially the measurement, measurements shall be taken before and after the main test. If the vehicle is present when ambient measurements are taken, it will be necessary to ensure that any emissions from the vehicle do not affect significantly the ambient measurements, for example by removing the vehicle from the test area, removing the ignition key, or disconnecting the battery. In both of the measurements, the extraneous noise or signal shall be at least 10 dB below the limits of interference given in point 6.2.2.1 or 6.2.2.2 (as appropriate) of Annex I, except for intentional narrowband ambient transmissions.

## 4. VEHICLE STATE DURING TESTS

4.1. *Engine*

The engine shall be running at its normal operating temperature and the transmission shall be in neutral. If for practical reasons this cannot be achieved, alternative arrangements mutually agreed between the manufacturer and the test authorities may be made.

Care shall be taken to ensure that the speed setting mechanism does not influence electromagnetic radiations. During each measurement, the engine shall be operated as follows:

Engine type	Method of measurements	
	Quasi peak	Peak
Spark ignition	Engine speed	Engine speed
One cylinder	2 500 rpm $\pm$ 10 %	2 500 rpm $\pm$ 10 %
More than one cylinder	1 500 rpm $\pm$ 10 %	1 500 rpm $\pm$ 10 %

4.2. Testing shall not be conducted while rain or other precipitation is falling on the vehicle or within 10 minutes after such precipitation has stopped.

## 5. ANTENNA TYPE, POSITION AND ORIENTATION

5.1. *Antenna type*

Any antenna may be used provided it can be normalised to the reference antenna. The method described in CISPR publication No 12, Edition 3, Appendix A, may be used to calibrate the antenna.

5.2. *Height and distance of measurement*

## 5.2.1. Height

## 5.2.1.1. 10 m test

The phase centre of the antenna shall be  $3,00 \pm 0,05$  m above the plane on which the vehicle rests.

## 5.2.1.2. 3 m test

The phase centre of the antenna shall be  $1,80 \pm 0,05$  m above the plane on which the vehicle rests.

5.2.1.3. No part of any antenna's receiving elements shall be closer than 0,25 m to the plane on which the vehicle rests.

## 5.2.2. Distance of measurement

## 5.2.2.1. 10 m test

The horizontal distance from the tip or other appropriate point of the antenna defined during the normalisation procedure described in point 5.1 to the outer body surface of the vehicle shall be  $10,0 \pm 0,2$  m.

## 5.2.2.2. 3 m test

The horizontal distance from the tip or other appropriate point of the antenna defined during the normalisation procedure described in point 5.1 to the outer body surface of the vehicle shall be  $3,00 \pm 0,05$  m.

5.2.2.3. If the test is carried out in a facility enclosed for radio frequency electromagnetic screening purposes, the antenna's receiving elements shall be no closer than 1,0 m to any radio absorbent material and no closer than 1,5 m to the wall of the enclosed facility. There must be no absorbent material between the receiving antenna and vehicle under test.

5.3. *Antenna location relative to vehicle*

The antenna shall be located successively on the left and right-hand sides of the vehicle, with the antenna parallel to the plane of longitudinal symmetry of the vehicle, in line with the engine mid-point (see Figure 1 in Appendix 1) and in line with the vehicle mid-point defined as the point on the principal axis of the vehicle midway between the centres of the front and rear axles of the vehicle.

5.4. *Antenna position*

At each of the measuring points, readings shall be taken both with the antenna in a horizontal and in a vertical polarisation (see Figure 2 in Appendix 1).

5.5. *Readings*

The maximum of the four readings taken in accordance with points 5.3 and 5.4 at each spot frequency shall be taken as the characteristic reading at the frequency at which the measurements were made.

## 6. FREQUENCIES

6.1. *Measurements*

Las mediciones se efectuarán en la gama de frecuencias que va desde los 30 hasta los 1 000 MHz. A fin de comprobar que se cumplen los requisitos del presente anexo, la autoridad encargada del ensayo efectuará ensayos en hasta 13 frecuencias de dicha gama, por ejemplo 45, 65, 90, 120, 150, 190, 230, 280, 380, 450, 600, 750 y 900 MHz. En caso de que se rebase el límite durante el ensayo, se deberá comprobar si ello se debe al vehículo y no a la radiación ambiental.

6.1.1. The limits apply throughout the frequency range 30 to 1 000 MHz.

6.1.2. Measurements can be performed with either quasi-peak or peak detectors. The limits given in points 6.2 and 6.5 of Annex I are for quasi-peak. If peak is used, add 38 dB for 1 MHz band width or subtract 22 dB for 1 kHz band width.

6.2. *Tolerances*

Spot frequency (MHz)	Tolerance (MHz)
45, 65, 90, 120, 150, 190 and 230	± 5
280, 380, 450, 600, 750 and 900	± 20

The tolerances apply to frequencies quoted and are intended to avoid interference from transmissions operating on or near the nominal spot frequencies during the time of measurement.

## Appendix 1

Figure 1

## TRACTOR TEST AREA

(Level area free from reflecting electromagnetic surfaces)

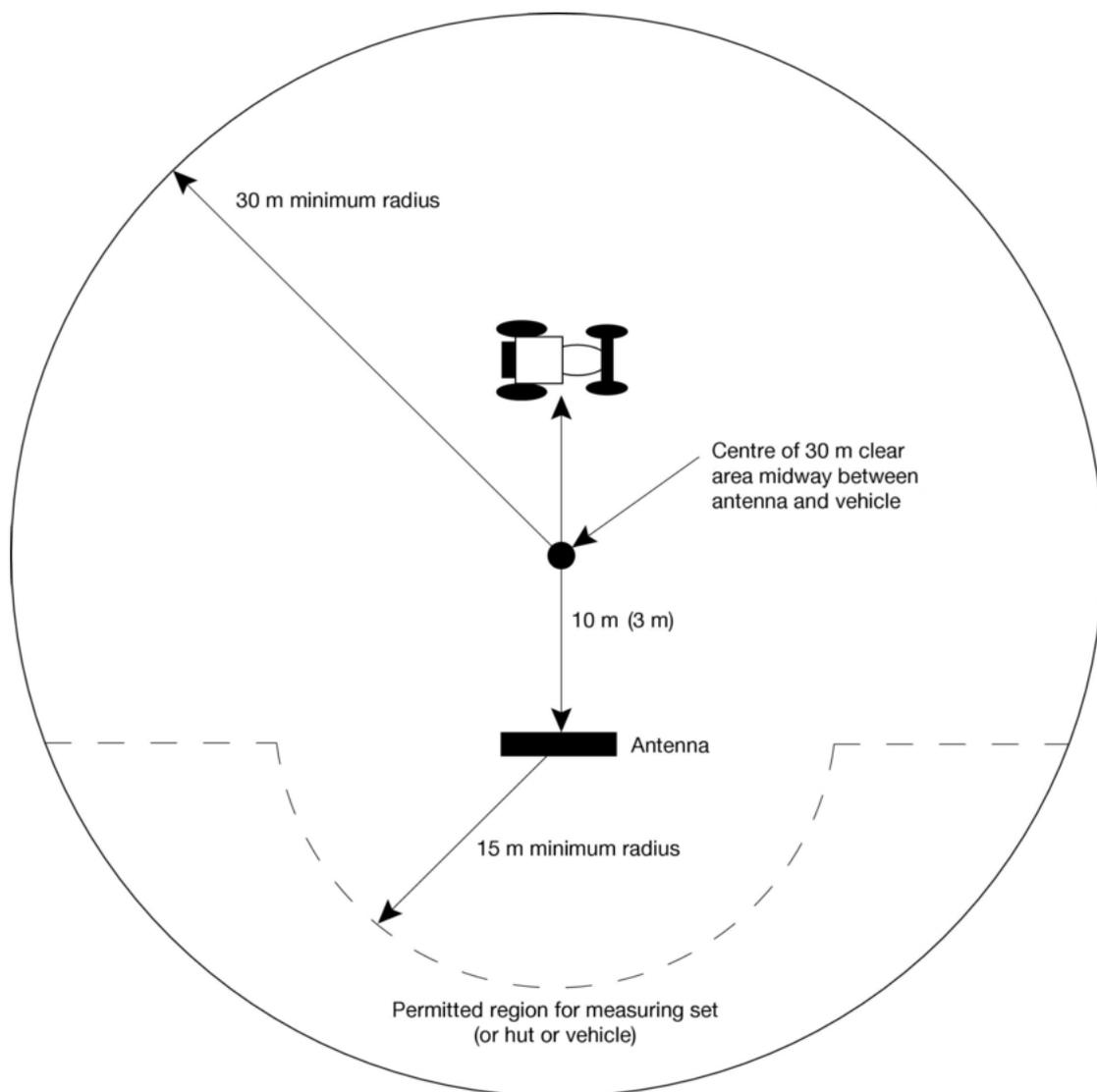
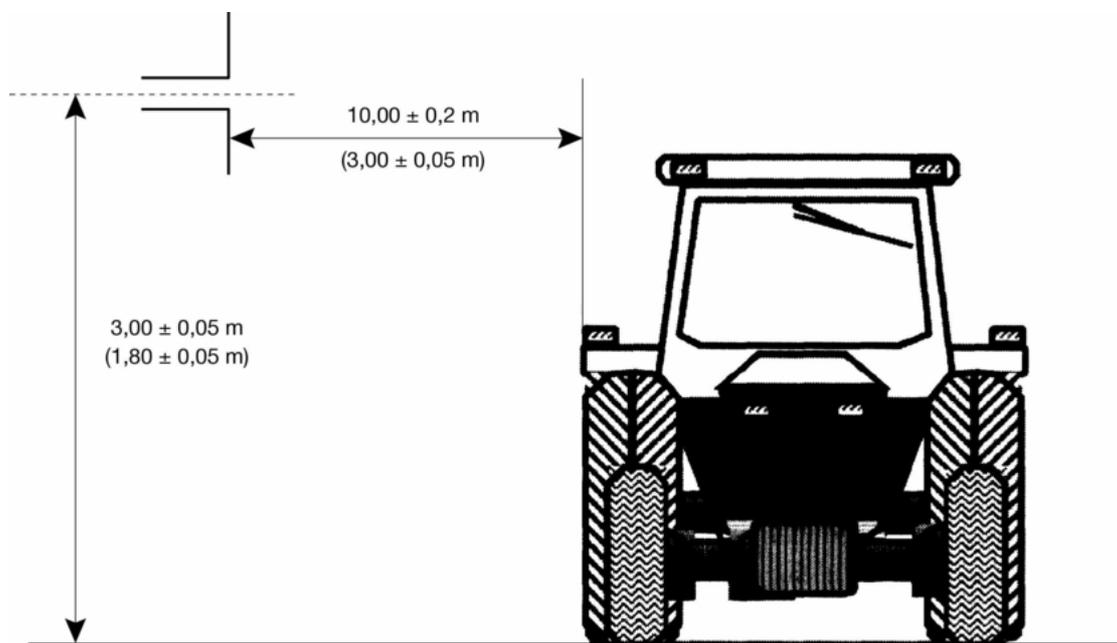


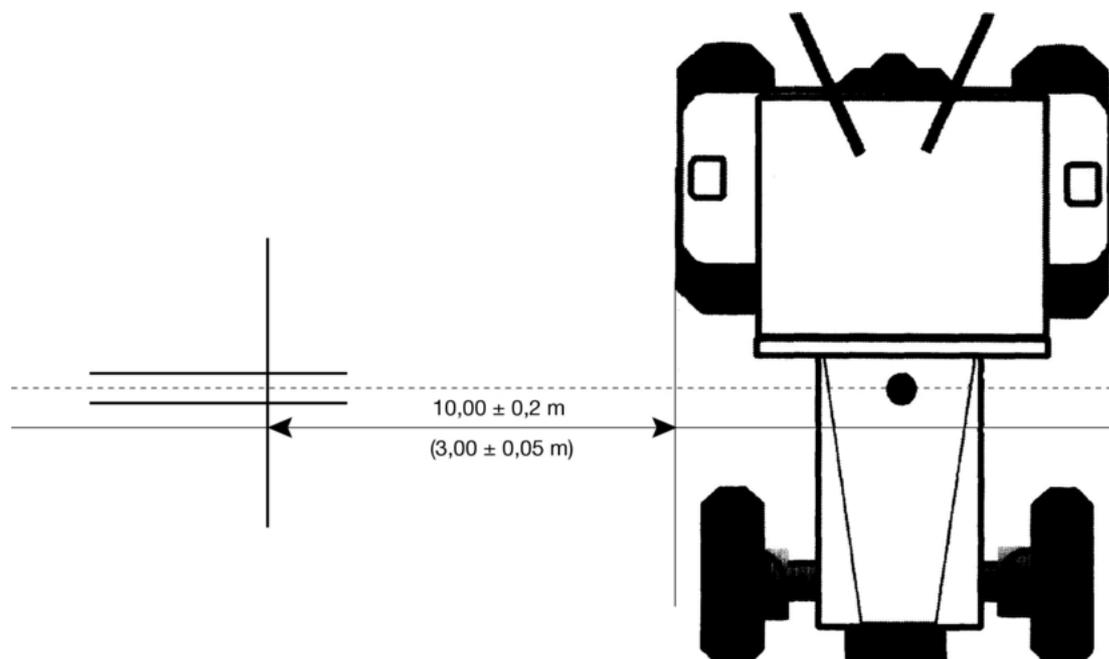
Figure 2

## POSITION OF ANTENNA RELATIVE TO TRACTOR



Elevation

Dipole antenna in position to measure vertical component of radiation



Plan

Dipole antenna in position to measure horizontal component of radiation\*

## ANNEX VII

**METHOD OF MEASUREMENT OF RADIATED NARROWBAND ELECTROMAGNETIC EMISSIONS FROM VEHICLES**

## 1. GENERAL

1.1. The test method described in this Annex shall only be applied to vehicles.

1.2. *Measuring apparatus*

The measuring equipment shall comply with the requirements of publication No 16-1 (93) of the International Special Committee on Radio Interference (CISPR).

An average detector or a peak detector shall be used for the measurement of radiated narrowband electromagnetic emissions in this Annex.

1.3. *Test method*

1.3.1. This test is intended to measure narrowband electromagnetic emissions such as might emanate from a microprocessor-based system or other narrowband source.

1.3.2. As an initial step the levels of emissions in the FM frequency band (88 to 108 MHz) shall be measured at the vehicle broadcast radio antenna with equipment as specified in point 1.2. If the level specified in point 6.3.2.4 of Annex I is not exceeded, then the vehicle shall be deemed to comply with the requirements of this Annex in respect of that frequency band and the full test shall not be carried out.

1.3.3. In the full test procedure two alternative antenna distances are permissible: 10 or 3 m from the vehicle. In either case the requirements of point 3 of this Annex shall be complied with.

## 2. EXPRESSION OF RESULTS

The results of measurements shall be expressed in dB microvolts/m (microvolts/m).

## 3. MEASURING LOCATION

3.1. The test site shall be a level, clear area free from electromagnetic reflecting surfaces within a circle of minimum radius 30 m measured from a point midway between the vehicle and the antenna (see Figure 1 in Appendix 1 of Annex VI).

3.2. The measuring set, test hut, or vehicle in which the measurement set is located may be within the test site, but only in the permitted region shown in Figure 1 in Appendix 1 of Annex VI.

Other measuring antennae are allowed within the test area, at a minimum distance of 10 m both from receiving antenna and the vehicle under test, provided that it can be shown that the test results will not be affected.

3.3. Enclosed test facilities may be used if correlation can be shown between the enclosed test facility and an outdoor site. Enclosed test facilities do not need to meet the dimensional requirements of Figure 1 in Appendix 1 of Annex VI other than the distance from the antenna to the vehicle and the height of the antenna. Neither do they need to have ambient emissions checked before or after the test as indicated in point 3.4 of this Annex.

3.4. *Ambient*

To ensure that there is no extraneous noise or signal of a magnitude sufficient to affect materially the measurement, ambient measurements shall be taken before and after the main test. It will be necessary to ensure that any emissions from the vehicle do not affect significantly the ambient measurements, for example by removing the vehicle from the test area, removing the ignition key, or disconnecting the battery(ies). In both of the measurements, the extraneous noise or signal shall be at least 10 dB below the limits of interference given in point 6.3.2.1 or 6.3.2.2 (as appropriate) of Annex I, except for intentional narrowband ambient transmissions.

#### 4. VEHICLE STATE DURING TESTS

- 4.1. The vehicle's electronic systems shall all be in normal operating mode with the vehicle stationary.
- 4.2. The ignition shall be switched on. The engine shall not be operating.
- 4.3. Measurements shall not be made while rain or other precipitation is falling on the vehicle or within 10 minutes after such precipitation has stopped.

#### 5. ANTENNA TYPE, POSITION AND ORIENTATION

##### 5.1. *Antenna type*

Any antenna may be used provided that it can be normalised to the reference antenna. The method described in the CISPR publication No 12, Edition 3, Appendix A, may be used to calibrate the antenna.

##### 5.2. *Height and distance of measurement*

###### 5.2.1. Height

###### 5.2.1.1. 10 m test

The phase centre of the antenna shall be  $3,00 \pm 0,05$  m above the plane on which the vehicle rests.

###### 5.2.1.2. 3 m test

The phase centre of the antenna shall be  $1,80 \pm 0,05$  m above the plane on which the vehicle rests.

###### 5.2.1.3. No part of any antenna's receiving elements shall be closer than 0,25 m to the plane on which the vehicle rests.

###### 5.2.2. Distance of measurement

###### 5.2.2.1. 10 m test

The horizontal distance from the tip or other appropriate point of the antenna defined during the normalisation procedure described in point 5.1 to the outer body surface of the vehicle shall be  $10,0 \pm 0,2$  m.

###### 5.2.2.2. 3 m test

The horizontal distance from the tip or other appropriate point of the antenna defined during the normalisation procedure described in point 5.1 to the outer body surface of the vehicle shall be  $3,00 \pm 0,05$  m.

###### 5.2.2.3. If the test is carried out in a facility enclosed for radio frequency electromagnetic screening purposes, the antenna's receiving elements shall be no closer than 1,0 m to any radio absorbent material and no closer than 1,5 m to the wall of the enclosed facility. There must be no absorbent material between the receiving antenna and vehicle under test.

##### 5.3. *Antenna location relative to vehicle*

The antenna shall be located successively on the left and right-hand sides of the vehicle with the antenna parallel to the plane of longitudinal symmetry of the vehicle and in line with the engine mid-point (see Figure 2 in Appendix 1 of Annex VI).

##### 5.4. *Antenna position*

At each of the measuring points, readings shall be taken both with the antenna in a horizontal and in a vertical polarisation (see Figure 2 in Appendix 1 of Annex VI).

5.5. *Readings*

The maximum of the four readings taken in accordance with points 5.3 and 5.4 at each spot frequency shall be taken as the characteristic reading at the frequency at which the measurements are made.

6. FREQUENCIES

6.1. *Measurements*

Measurements shall be made throughout the 30 to 1 000 MHz frequency range. This range shall be divided into 13 bands. In each band one spot frequency may be tested to demonstrate that the required limits are satisfied. To confirm that the vehicle meets the requirements of this Annex, the testing authority shall test at one such point in each of the following 13 frequency bands:

30 to 50, 50 to 75, 75 to 100, 100 to 130, 130 to 165, 165 to 200, 200 to 250, 250 to 320, 320 to 400, 400 to 520, 520 to 660, 660 to 820, 820 to 1 000 MHz.

In the event that the limit is exceeded during the test, investigations shall be made to ensure that this is due to the vehicle and not to background radiation.

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## ANNEX VIII

**METHOD OF TESTING FOR IMMUNITY OF VEHICLES TO ELECTROMAGNETIC RADIATION**

## 1. GENERAL

1.1. The test method described in this Annex shall only be applied to vehicles.

1.2. *Test method*

This test is intended to demonstrate the immunity to degradation in the direct control of the vehicle. The vehicle shall be subject to electromagnetic fields as described in this Annex. The vehicle shall be monitored during the tests.

## 2. EXPRESSION OF RESULTS

For the test described in this Annex, field strengths shall be expressed in volts/m.

## 3. MEASURING LOCATION

The test facility shall be capable of generating the field strengths over the frequency ranges defined in this Annex. The test facility shall comply with (national) legal requirements regarding the emission of electromagnetic signals.

Care shall be taken so that the control and monitoring equipment shall not be affected by radiated fields in such a way as to invalidate the tests.

## 4. VEHICLE STATE DURING TESTS

4.1. The vehicle shall be in an unladen condition except for necessary test equipment.

4.1.1. The engine shall turn the driving wheels normally at a constant speed corresponding to three quarters of the maximum speed of the vehicle if there is no technical reason for the manufacturer to prefer another speed. The vehicle's engine must be loaded with an appropriate torque. If need be, the transmission shafts may be disengaged (for example, in the case of vehicles with more than two axles), provided they do not drive a component-emitting interference.

4.1.2. Headlamps shall be on dipped beam.

4.1.3. Left or right-direction indicator shall be operating.

4.1.4. All other systems which affect the driver's control of the vehicle shall be (on) as in normal operation of the vehicle.

4.1.5. The vehicle shall not be electrically connected to the test area and no connections shall be made to the vehicle from any equipment, except as required by point 4.1.1 or 4.2. Tyre contact with the test area floor shall not be considered to be an electrical connection.

4.2. If there are vehicle electrical/electronic systems which form an integral part of the direct control of the vehicle, which will not operate under the conditions described in point 4.1, it will be permissible for the manufacturer to provide a report or additional evidence to the testing authority that the vehicle electrical/electronic system meets the requirements of this Directive. Such evidence shall be retained in the type-approval documentation.

4.3. Only non-perturbing equipment shall be used while monitoring the vehicle. The vehicle exterior and the passenger compartment shall be monitored to determine whether the requirements of this Annex are met (for example by using (a) video camera(s)).

- 4.4. The vehicle shall normally face a fixed antenna. However, where the electronic control units and the associated wiring harness are predominantly in the rear of the vehicle, the test shall normally be carried out with the vehicle facing away from the antenna. In the case of long vehicles (namely excluding cars and light vans), which have electronic control units and associated wiring harness predominantly towards the middle of the vehicle, a reference point (see point 5.4) may be established based on either the right-side surface or the left-side surface of the vehicle. This reference point shall be at the midpoint of the vehicle's length or at one point along the side of the vehicle chosen by the manufacturer in conjunction with the competent authority after considering the distribution of electronic systems and the layout of any wiring harness.

Such testing may only take place if the physical construction of the chamber permits. The antenna location must be noted in the test report.

5. FIELD GENERATING DEVICE TYPE, POSITION AND ORIENTATION

5.1. *Field generating device type*

- 5.1.1. The field generating device type(s) shall be chosen such that the desired field strength is achieved at the reference point (see point 5.4) at the appropriate frequencies.

- 5.1.2. The field generating device(s) may be an antenna or antennas or a transmission line system (TLS).

- 5.1.3. The construction and orientation of any field generating device shall be such that the generated field is polarised: from 20 to 1 000 MHz horizontally or vertically.

5.2. *Height and distance of measurement*

5.2.1. Height

- 5.2.1.1. The phase centre of any antenna shall not be less than 1,5 m above the plane on which the vehicle rests or not less than 2,0 m above the plane on which the vehicle rests if the vehicle roof exceeds 3 m in height.

- 5.2.1.2. No part of any antenna's radiating elements shall be closer than 0,25 m to the plane on which the vehicle rests.

5.2.2. Distance of measurement

- 5.2.2.1. In-service conditions may be best approximated by placing the field generating device as far from the vehicle as practical. This distance will typically lie within the range 1 to 5 m.

- 5.2.2.2. If the test is carried out in an enclosed facility, the field generating device's radiating elements shall be no closer than 1,0 m to any radio absorbent material and no closer than 1,5 m to the wall of the enclosed facility. There shall be no absorbent material between the transmitting antenna and the vehicle under test.

5.3. *Antenna location relative to vehicle*

- 5.3.1. The field generating device's radiating elements shall not be closer than 0,5 m to the outer body surface of the vehicle.

- 5.3.2. The field generating device shall be positioned on the vehicle's centre line (plane of longitudinal symmetry).

- 5.3.3. No part of a TLS, with the exception of the plane on which the vehicle rests, shall be closer than 0,5 m to any part of the vehicle.

- 5.3.4. Any field generating device which is placed over the vehicle shall extend centrally over at least 75 % of the length of the vehicle.

#### 5.4. *Reference point*

5.4.1. For the purposes of this Annex the reference point is the point at which the field strength shall be established and shall be defined as follows:

5.4.1.1. at least 2 m horizontally from the antenna phase centre or at least 1 m vertically from the radiating elements of a TLS,

5.4.1.2. on the vehicle's centre line (plane of longitudinal symmetry),

5.4.1.3. at a height of  $1,0 \pm 0,05$  m above the plane on which the vehicle rests or  $2,0 \pm 0,05$  m if the minimum height of the roof of any vehicle in the model range exceeds 3,0 m,

5.4.1.4. for front illumination, either:

—  $1,0 \pm 0,2$  m inside the vehicle, measured from the point of intersection of the windscreen and bonnet (point C in Appendix 1), or

—  $0,2 \pm 0,2$  m from the centre line of the front axle of the tractor, measured towards the centre of the tractor (point D in Appendix 2),

whichever results in a reference point closer to the antenna,

5.4.1.5. for rear illumination, either:

—  $1,0 \pm 0,2$  m inside the vehicle, measured from the point of intersection of the windscreen and bonnet (point C in Appendix 1), or

—  $0,2 \pm 0,2$  m from the centre line of the rear axle of the tractor, measured towards the centre of the tractor (point D in Appendix 2),

whichever results in a reference point closer to the antenna.

5.5. If it is decided to radiate the rear of the vehicle, the reference point shall be established as in point 5.4. The vehicle shall then be installed facing away from the antenna and positioned as if it had been horizontally rotated  $180^\circ$  around its centre point, namely in such a way that the distance from the antenna to the nearest part of the outer body of the vehicle remains the same. This is illustrated in Appendix 3.

## 6. TEST REQUIREMENTS

### 6.1. *Frequency range, dwell times, polarisation*

The vehicle shall be exposed to electromagnetic radiation in the 20 to 1 000 MHz frequency range.

6.1.1. To confirm that the vehicle meets the requirements of this Annex, the vehicle shall be tested at up to 14 spot frequencies in the range, for example:

27, 45, 65, 90, 120, 150, 190, 230, 280, 380, 450, 600, 750 and 900 MHz.

The response time of the equipment under test shall be considered and the dwell time shall be sufficient to allow the equipment under test to react under normal conditions. In any case, it shall not be less than two seconds.

6.1.2. One mode of polarisation shall be used at each frequency — see point 5.1.3.

6.1.3. All other test parameters shall be as defined in this Annex.

6.1.4. If a vehicle fails the test defined in point 6.1.1, it must be verified as having failed under the relevant test conditions and not as a result of the generation of uncontrolled fields.

## 7. GENERATION OF REQUIRED FIELD STRENGTH

### 7.1. *Test methodology*

7.1.1. The 'substitution method' shall be used to establish the test field conditions.

#### 7.1.2. Calibration phase

At each test frequency, a level of power shall be fed into the field generating device to produce the required field strength at the reference point (as defined in point 5) in the test area with the vehicle absent, the level of forward power, or another parameter directly related to the forward power required to define the field, shall be measured and the results recorded. Test frequencies shall lie in the range 20 to 1 000 MHz. Calibration shall be made, starting at 20, in steps not greater than two per cent of the previous frequency finishing at 1 000 MHz. These results shall be used for type-approval tests unless changes occur in the facilities or equipment which necessitate this procedure being repeated.

#### 7.1.3. Test phase

The vehicle shall then be introduced into the test facility and positioned in accordance with the requirements of point 5. The required forward power defined in point 7.1.2 at each frequency as defined in point 6.1.1 shall then be applied to the field generating device.

7.1.4. Whatever parameter was chosen in point 7.1.2 to define the field, the same parameter shall be used to establish the field strength during the test.

7.1.5. The field generating equipment and its layout employed during the test shall be to the same specification as that used during the operations performed in point 7.1.2.

#### 7.1.6. Field strength measuring device

A suitable compact field strength measuring device shall be used to determine the field strength during the calibration phase of the substitution method.

7.1.7. During the calibration phase of the substitution method, the phase centre of the field strength measuring device shall be positioned at the reference point.

7.1.8. If a calibrated receiving antenna is used as the field strength measuring device, readings shall be obtained in three mutually orthogonal directions and the isotropic equivalent value of the readings shall be taken as the field strength.

7.1.9. To take account of different vehicle geometries, a number of antennae positions or reference points may need to be established for a given test facility.

### 7.2. *Field strength contour*

7.2.1. During the calibration phase of the substitution method (prior to a vehicle being introduced into the test area), the field strength in at least 80 % of the calibration steps shall not be less than 50 % of the nominal field strength, at the following locations:

- (a) for all field generating devices,  $0,5 \pm 0,05$  m either side of the reference point on a line passing through the reference point and at the same height as the reference point, and perpendicular to the vehicle plane of longitudinal symmetry;
- (b) in the case of a TLS,  $1,50 \pm 0,05$  m on a line passing through the reference point at the same height as the reference point and along the line of longitudinal symmetry.

### 7.3. *Chamber resonance*

Notwithstanding the condition set out in point 7.2.1, tests shall not be performed at chamber resonant frequencies.

### 7.4. *Characteristics of the test signal to be generated*

#### 7.4.1. Maximum envelope excursion

The maximum envelope excursion of the test signal shall equal the maximum envelope excursion of an unmodulated sine wave whose rms value in volts/m is defined in point 6.4.2 of Annex I (see Appendix 3 of this Annex).

7.4.2. Test signal wave form

The test signal shall be a radio frequency sine wave, amplitude modulated by a 1 kHz sine wave at a modulation depth  $m$  of  $0,8 \pm 0,04$ .

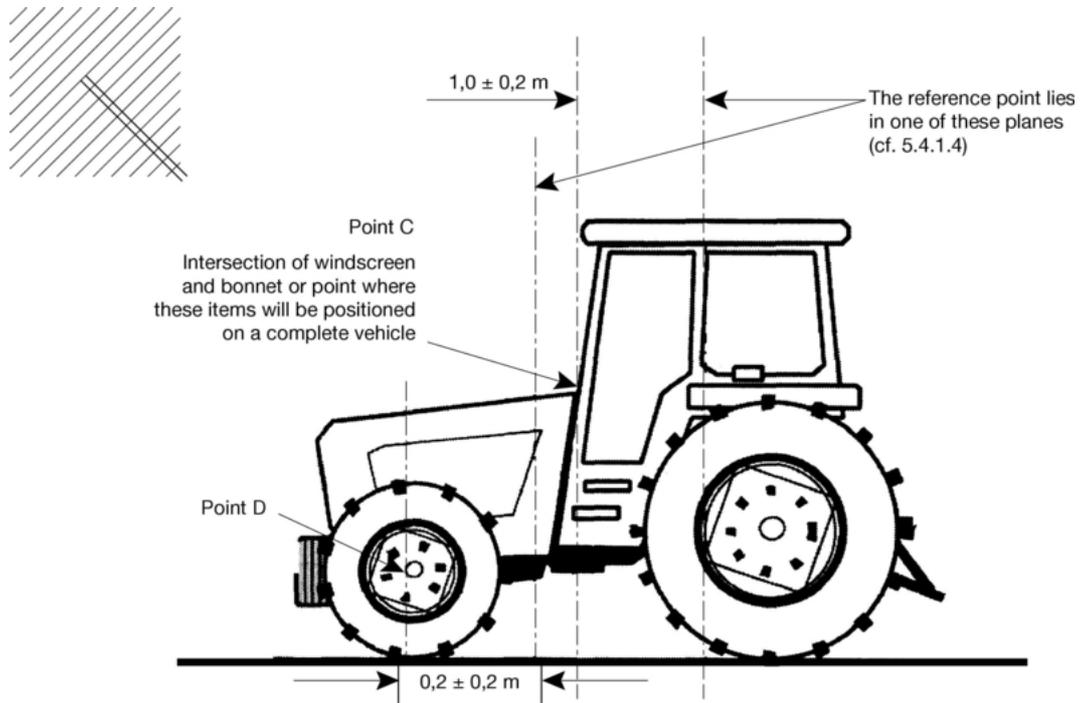
7.4.3. Modulation depth

The modulation depth  $m$  is defined as:

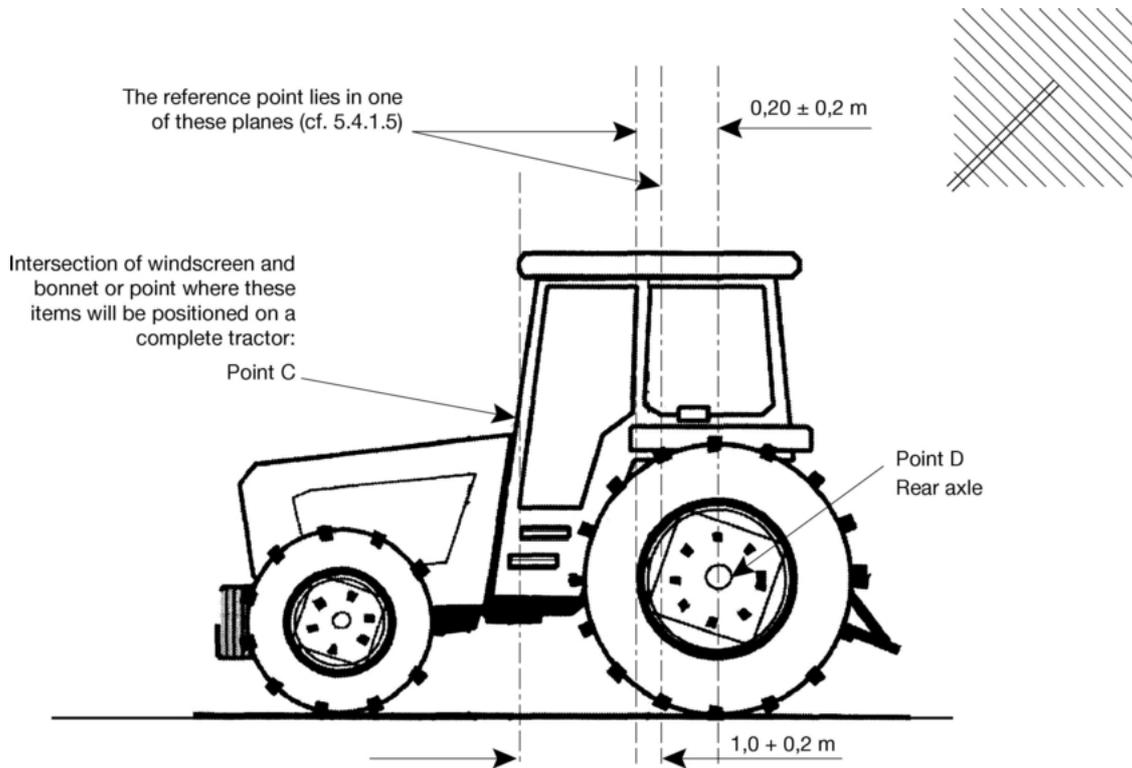
$m = (\text{maximum envelope excursion} - \text{minimum envelope excursion}) / (\text{maximum envelope excursion} + \text{minimum envelope excursion})$ .

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Appendix 1

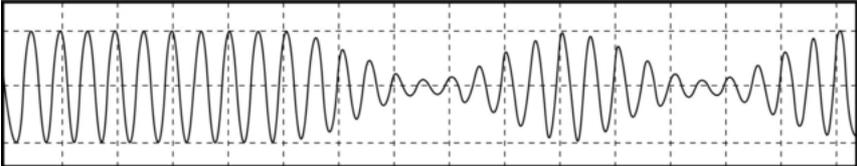


Appendix 2



## Appendix 3

## Characteristics of test signal to be generated



<p>Unmodulated sine wave whose rms value is as defined in point 6.4.2 of Annex I</p>	<p>Test signal 80 %, sine wave, amplitude modulated: maximum envelope excursion equal to maximum envelope excursion of an unmodulated sine wave whose rms value is as defined in point 6.4.2 of Annex I</p>
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## ANNEX IX

**METHOD OF MEASUREMENT OF RADIATED BROADBAND ELECTROMAGNETIC EMISSIONS FROM ELECTRICAL/ELECTRONIC SUB-ASSEMBLIES**

## 1. GENERAL

- 1.1. The test method described in this Annex may be applied to ESAs which may be subsequently fitted to vehicles which comply with Annex VI.

1.2. *Measuring apparatus*

The measuring equipment shall comply with the requirements of publication No 16-1 (93) of the International Special Committee on Radio Interference (CISPR).

A quasi-peak detector shall be used for the measurement of broadband electromagnetic emissions in this Annex, or if a peak detector is used an appropriate correction factor shall be used depending on the interference pulse rate.

1.3. *Test method*

This test is intended to measure broadband electromagnetic emissions from ESAs.

## 2. EXPRESSION OF RESULTS

The results of measurements shall be expressed in dB microvolts/m (microvolts/m), for 120 kHz band width. If the actual band width B (expressed in kHz) of the measuring apparatus differs from 120 kHz, the readings taken in microvolts/m shall be converted to 120 kHz band width through multiplication by a factor  $120/B$ .

## 3. MEASURING LOCATION

- 3.1. The test site shall comply with the requirements of CISPR publication No 16-1 (93) (see Appendix 1).
- 3.2. The measuring set, test hut or vehicle in which the measurement set is located shall be outside the boundary shown in Appendix 1.
- 3.3. Enclosed test facilities may be used if correlation can be shown between the enclosed test facility and an approved outdoor site. Enclosed test facilities do not need to meet the dimensional requirements of Appendix 1 other than the distance from the antenna to the ESA under test and the height of the antenna (see Figures 1 and 2 in Appendix 2).

3.4. *Ambient*

To ensure that there is no extraneous noise or signal of a magnitude sufficient to affect materially the measurement, measurements shall be taken before and after the main test. In both of these measurements, the extraneous noise or signal shall be at least 10 dB below the limits of interference given in point 6.5.2.1 of Annex I, except for intentional narrowband ambient transmissions.

## 4. ESA STATE DURING TESTS

- 4.1. The ESA under test shall be in normal operation mode.
- 4.2. Measurements shall not be made while rain or other precipitation is falling on the ESA under test or within 10 minutes after such rain or other precipitation has stopped.

#### 4.3. Test arrangements

- 4.3.1. The ESA under test and its wiring harnesses shall be supported  $50 \pm 5$  mm above a wooden or equivalent non-conducting table. However, if any part of the ESA under test is intended to be electrically bonded to a vehicle's metal bodywork, that part shall be placed on a ground plane and shall be electrically bonded to the ground plane. The ground plane shall be a metallic sheet with a minimum thickness of 0,5 mm. The minimum size of the ground plane depends on the size of the ESA under test but shall allow for the distribution of the ESA's wiring harness and components. The ground plane shall be connected to the protective conductor of the earthing system. The ground plane shall be situated at a height of  $1,0 \pm 0,1$  m above the test facility floor and shall be parallel to it.
- 4.3.2. The ESA under test shall be arranged and connected according to its requirements. The power supply harness shall be positioned along, and within 100 mm of, the edge of the ground plane/table closest to the antenna.
- 4.3.3. The ESA under test shall be connected to the grounding system according to the manufacturer's installation specification, no additional grounding connections shall be permitted.
- 4.3.4. The minimum distance between the ESA under test and all other conductive structures, such as walls of a shielded area (with the exception of the ground plane/table underneath the test object) must be 1,0 m.
- 4.4. Power shall be applied to the ESA under test via a  $5 \mu\text{H}/50 \Omega$  artificial network (AN) which shall be electrically bonded to the ground plane. The electrical supply voltage shall be maintained to  $\pm 10$  % of its nominal system operating voltage. Any ripple voltage shall be less than 1,5 % of the nominal system operating voltage measured at the AN monitoring port.
- 4.5. If the ESA under test consists of more than one unit, the interconnecting cables shall ideally be the wiring harness as intended for use in the vehicle. If these are not available, the length between the electronic control unit and the AN shall be  $1\ 500 \pm 75$  mm.

All cables in the loom shall be terminated as realistically as possible and preferably with real loads and actuators.

If extraneous equipment is required for the correct operation of the ESA under test, compensation shall be made for the contribution it makes to the emissions measured.

#### 5. ANTENNA TYPE, POSITION AND ORIENTATION

##### 5.1. Antenna type

Any linearly polarised antenna may be used provided it can be normalised to the reference antenna.

##### 5.2. Height and distance of measurement

###### 5.2.1. Height

The phase centre of the antenna shall be  $150 \pm 10$  mm above ground plane.

###### 5.2.2. Distance of measurement

The horizontal distance from the phase centre, or tip of the antenna as appropriate, to the edge of the ground plane shall be  $1,00 \pm 0,05$  m. No part of the antenna shall be closer than 0,5 m to the ground plane.

The antenna shall be placed parallel to a plane which is perpendicular to the ground plane and coincident with the edge of the ground plane along which the principal portion of the harness runs.

- 5.2.3. If the test is carried out in a facility enclosed for radio frequency electromagnetic screening purposes, the antenna's receiving elements shall be no closer than 0,5 m to any radio absorbent material and no closer than 1,5 m to the wall of the enclosed facility. There must be no absorbent material between the receiving antenna and the ESA under test.

5.3. *Antenna orientation and polarisation*

At the measuring point, readings shall be taken both with the antenna in a vertical and in a horizontal polarisation.

5.4. *Readings*

The maximum of the two readings taken (in accordance with point 5.3) at each spot frequency shall be taken as the characteristic reading at the frequency at which the measurements were made.

6. FREQUENCIES

6.1. *Measurements*

Measurements shall be made throughout the 30 to 1 000 MHz frequency range. An ESA is considered as very likely to satisfy the required limits over the whole frequency range if it satisfies them at the following 13 frequencies in the range: 45, 65, 90, 120, 150, 190, 230, 280, 380, 450, 600, 750 and 900 MHz

In the event that the limit is exceeded during the test, investigations shall be made to ensure that this is due to the ESA and not to background radiation.

6.1.1. The limits apply throughout the frequency range 30 to 1 000 MHz.

6.1.2. Measurements can be performed with either quasi-peak or peak detectors. The limits given in points 6.2 and 6.5 of Annex I are for quasi-peak. If peak is used, add 38 dB for 1 MHz band width or subtract 22 dB for 1 kHz band width.

6.2. *Tolerances*

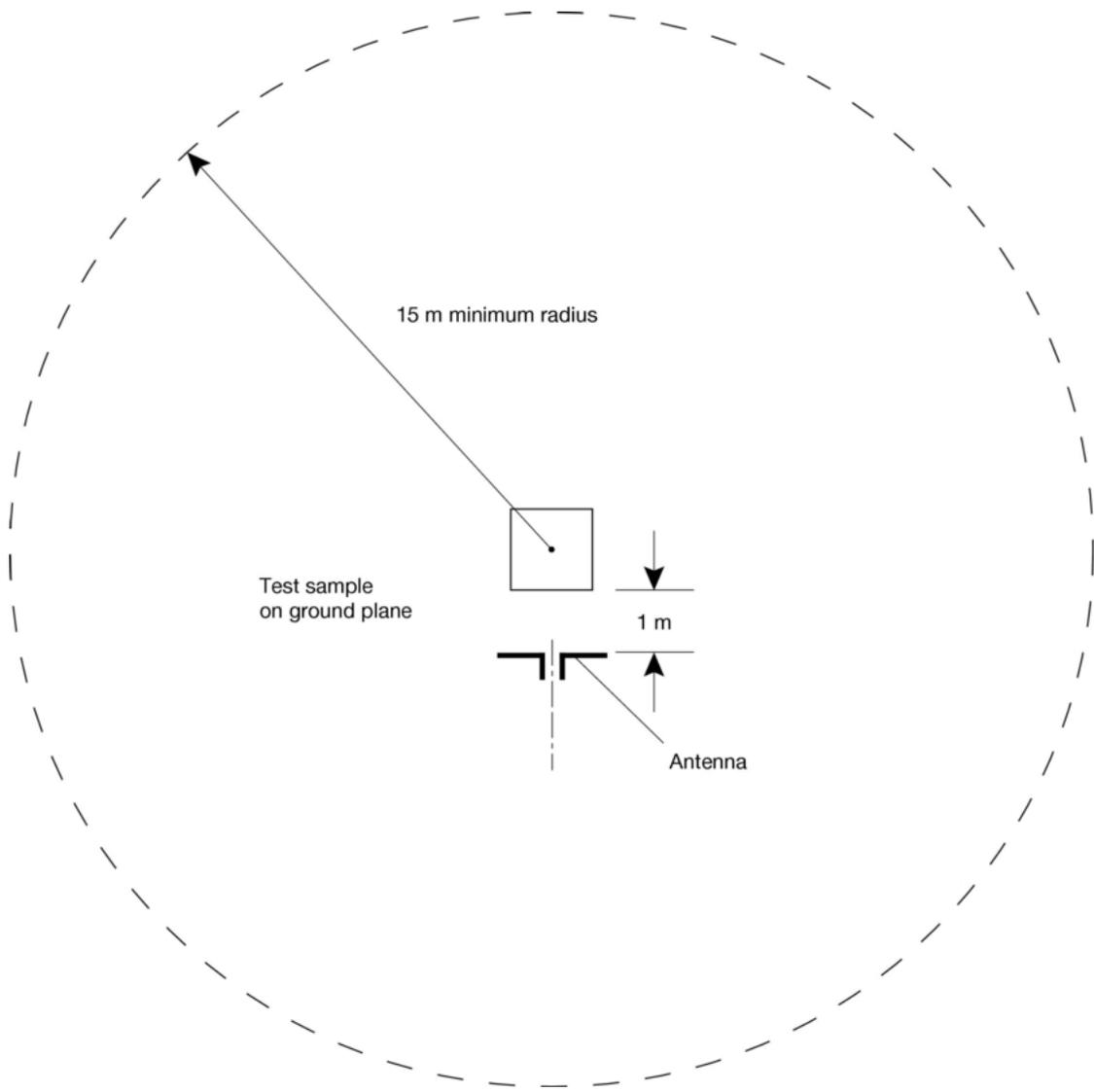
Spot frequency (MHz)	Tolerance (MHz)
45, 65, 90, 120, 150, 190 and 230	± 5
280, 380, 450, 600, 750 and 900	± 20

The tolerances apply to frequencies quoted and are intended to avoid interference from transmissions operating on or near the nominal spot frequencies during the time of measurement.

Appendix 1

**Electrical/electronic sub-assembly test area boundary**

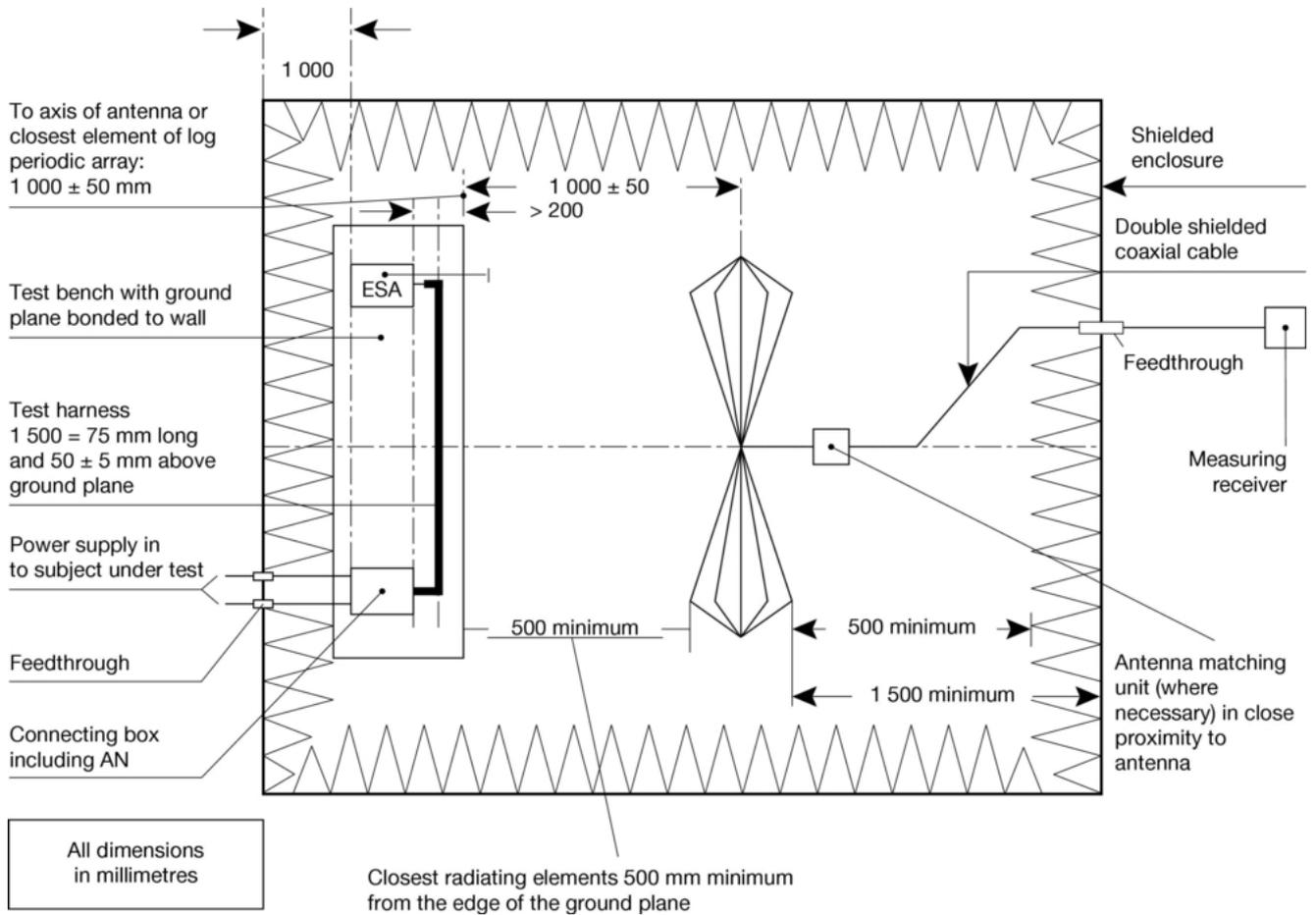
Level clear area free from electromagnetic reflecting surfaces



Appendix 2

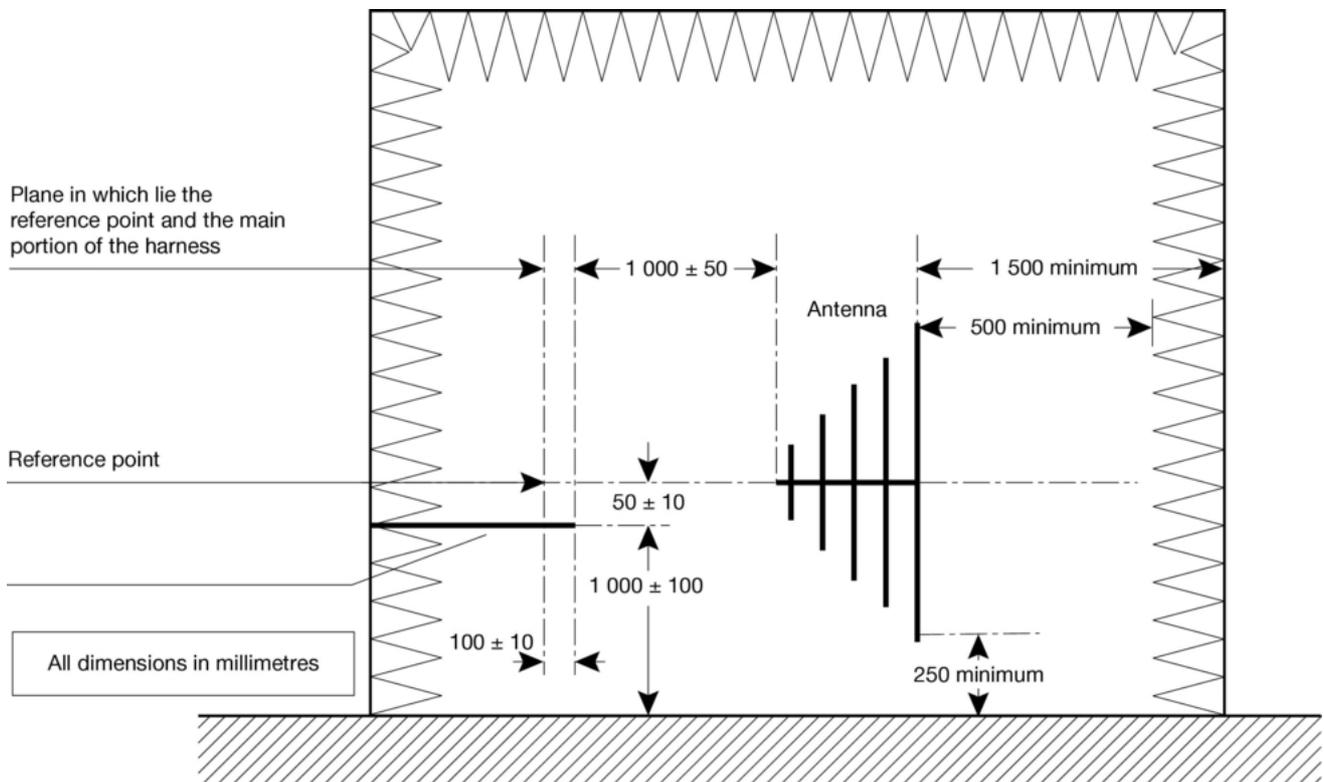
Figure 1

Radiated electromagnetic emissions from an ESA test layout (General plan view)



**Figure 2**

Radiated electromagnetic emissions from an ESA view of test bench plane of longitudinal symmetry



## ANNEX X

**METHOD OF MEASUREMENT OF RADIATED NARROWBAND ELECTROMAGNETIC EMISSIONS FROM ELECTRICAL/ELECTRONIC SUB-ASSEMBLIES**

## 1. GENERAL

1.1. The test method described in this Annex may be applied to ESAs.

1.2. *Measuring apparatus*

The measuring equipment shall comply with the requirements of publication No 16-1 (93) of the International Special Committee on Radio Interference (CISPR).

An average detector or a peak detector shall be used for the measurement of radiated narrowband electromagnetic emissions in this Annex.

1.3. *Test method*

1.3.1. This test is intended to measure the narrowband electromagnetic radiation such as might emanate from a microprocessor-based system.

1.3.2. As a short (2 to 3 minutes) initial step, choosing one antenna polarisation, it is permitted to make sweeps of the frequency range identified in point 6.1 using a spectrum analyser to indicate the existence and/or whereabouts of peak emissions. This may assist in the choice of frequencies to be tested (see point 6).

## 2. EXPRESSION OF RESULTS

The results of measurements shall be expressed in dB microvolts/m (microvolts/m).

## 3. MEASURING LOCATION

3.1. The test site shall comply with the requirements of CISPR publication No 16-1 (93) (see Appendix 1 of Annex IX).

3.2. The measuring set, test hut or vehicle in which the measurement set is located shall be outside the boundary shown in Appendix 1 of Annex IX.

3.3. Enclosed test facilities may be used if correlation can be shown between the enclosed test facility and an outdoor site. Enclosed test facilities do not need to meet the dimensional requirements of Appendix 1 of Annex IX other than the distance from the antenna to the ESA under test and the height of the antenna (see Figures 1 and 2 in Appendix 2 of Annex IX).

3.4. *Ambient*

To ensure that there is no extraneous noise or signal of a magnitude sufficient to affect materially the measurement, measurements shall be taken before and after the main test. In both of these measurements, the extraneous noise or signal shall be at least 10 dB below the limits of interference given in point 6.6.2.1 of Annex I, except for intentional narrowband ambient transmissions.

## 4. ESA STATE DURING TESTS

4.1. The ESA under test shall be in normal operation mode.

4.2. Measurements shall not be made while rain or other precipitation is falling on the ESA under test or within 10 minutes after rain or other precipitation has stopped.

#### 4.3. *Test arrangements*

- 4.3.1. The ESA under test and its wiring harnesses shall be supported  $50 \pm 5$  mm above a wooden or equivalent non-conducting table. However, if any part of the ESA under test is intended to be electrically bonded to a vehicle's metal bodywork, that part shall be placed on a ground plane and shall be electrically bonded to the ground plane.

The ground plane shall be a metallic sheet with a minimum thickness of 0,5 mm. The minimum size of the ground plane depends on the size of the ESA under test but shall allow for the distribution of the ESA's wiring harness and components. The ground plane shall be connected to the protective conductor of the earthing system. The ground plane shall be situated at a height of  $1,0 \pm 0,1$  m above the test facility floor and shall be parallel to it.

- 4.3.2. The ESA under test shall be arranged and connected according to its requirements. The power supply harness shall be positioned along, and within 100 mm of, the edge of the ground plane/table closest to the antenna.
- 4.3.3. The ESA under test shall be connected to the grounding system according to the manufacturer's installation specification, no additional grounding connections shall be permitted.
- 4.3.4. The minimum distance between the ESA under test and all other conductive structures, such as walls of a shielded area (with the exception of the ground plane/table underneath the test object) must be 1,0 m.
- 4.4. Power shall be applied to the ESA under test via a  $5 \mu\text{H}/50 \Omega$  resistance artificial network (AN) which shall be electrically bonded to the ground plane. The electrical supply voltage shall be maintained to  $\pm 10$  % of its nominal system operating voltage. Any ripple voltage shall be less than 1,5 % of the nominal system operating voltage measured at the AN monitoring port.
- 4.5. If the ESA under test consists of more than one unit, the interconnecting cables shall ideally be the wiring harness as intended for use in the vehicle. If these are not available, the length between the electronic control unit and the AN shall be  $1\ 500 \pm 75$  mm. All cables in the loom shall be terminated as realistically as possible and preferably with real loads and actuators. If extraneous equipment is required for the correct operation of the ESA under test, compensation shall be made for the contribution it makes to the emissions measured.

#### 5. ANTENNA TYPE, POSITION AND ORIENTATION

##### 5.1. *Antenna type*

Any linearly polarised antenna may be used provided it can be normalised to the reference antenna.

##### 5.2. *Height and distance of measurement*

###### 5.2.1. Height

The phase centre of the antenna shall be  $150 \pm 10$  mm above ground plane.

###### 5.2.2. Distance of measurement

The horizontal distance from the phase centre, or tip of the antenna as appropriate, to the edge of the ground plane shall be  $1,00 \pm 0,05$  m. No part of the antenna shall be closer than 0,5 m to the ground plane.

The antenna shall be placed parallel to a plane which is perpendicular to the ground plane and coincident with the edge of the ground plane along which the principal portion of the harness runs.

- 5.2.3. If the test is carried out in a facility enclosed for radio frequency electromagnetic screening purposes, the antenna's receiving elements shall be no closer than 0,5 m to any radio absorbent material and no closer than 1,5 m to the wall of the enclosed facility. There must be no absorbent material between the receiving antenna and the ESA under test.

##### 5.3. *Antenna orientation and polarisation*

At the measuring point, readings shall be taken both with the antenna in a vertical and in a horizontal polarisation.

5.4. *Readings*

The maximum of the two readings taken (in accordance with point 5.3) at each spot frequency shall be taken as the characteristic reading at the frequency at which the measurements were made.

6. FREQUENCIES

6.1. *Measurements*

Measurements shall be made throughout the 30 to 1 000 MHz frequency range. This range shall be divided into 13 bands. In each band one spot frequency may be tested to demonstrate that the required limits are satisfied. To confirm that the ESA under test meets the requirements of this Annex, the testing authority shall test one such point in each of the following 13 frequency bands:

30 to 50, 50 to 75, 75 to 100, 100 to 130, 130 to 165, 165 to 200, 200 to 250, 250 to 320, 320 to 400, 400 to 520, 520 to 660, 660 to 820, 820 to 1 000 MHz.

In the event that the limit is exceeded during the test, investigations shall be made to ensure that this is due to the ESA under test and not to background radiation.

- 6.2. If during the initial step which may have been carried out as described in point 1.3, the radiated narrowband emissions for any of the bands identified in point 6.1 are at least 10 dB below the reference limit, then the ESA shall be deemed to comply with the requirements of this Annex in respect of that frequency band.
-

## ANNEX XI

**METHOD(S) OF TESTING FOR IMMUNITY OF ELECTRICAL/ELECTRONIC SUB-ASSEMBLIES TO ELECTROMAGNETIC RADIATION**

## 1. GENERAL

1.1. The test method(s) described in this Annex may be applied to ESAs.

1.2. *Test methods*

1.2.1. ESAs may comply with the requirements of any combination of the following test methods at the manufacturer's discretion provided that this results in the full frequency range specified in point 5.1 being covered.

— Stripline testing: see Appendix 1

— Bulk current injection testing: see Appendix 2

— TEM cell testing: see Appendix 3

— Free field test: see Appendix 4

1.2.2. Due to radiation of electromagnetic fields during these tests, all testing shall be conducted in a shielded area (the TEM cell is a shielded area).

## 2. EXPRESSION OF RESULTS

For the tests described in this Annex, field strengths shall be expressed in volts/m and injected current shall be expressed in milliamperes.

## 3. MEASURING LOCATION

3.1. The test facility shall be capable of generating the required test signal over the frequency ranges defined in this Annex. The test facility shall comply with (national) legal requirements regarding the emission of electromagnetic signals.

3.2. The measuring equipment shall be located outside the chamber.

## 4. STATE OF ESA DURING TESTS

4.1. The ESA under test shall be in normal operation mode. It shall be arranged as defined in this Annex unless individual test methods dictate otherwise.

4.2. Power shall be applied to the ESA under test via an ( $5 \mu\text{H}/50 \Omega$ ) artificial network (AN), which shall be electrically grounded. The electrical supply voltage shall be maintained to  $\pm 10\%$  of its nominal system operating voltage. Any ripple voltage shall be less than  $1,5\%$  of the nominal system operating voltage measured at the AN monitoring port.

4.3. Any extraneous equipment required to operate the ESA under test shall be in place during the calibration phase. No extraneous equipment shall be closer than 1 m from the reference point during calibration.

4.4. To ensure reproducible measurement results are obtained when tests and measurements are repeated, the test signal generating equipment and its layout shall be to the same specification as that used during each appropriate calibration phase (points 7.2, 7.3.2.3, 8.4, 9.2 and 10.2).

4.5. If the ESA under test consists of more than one unit, the interconnecting cables shall ideally be the wiring harness as intended for use in the vehicle. If these are not available, the length between the electronic control unit and the AN shall be  $1\,500 \pm 75$  mm. All cables in the loom shall be terminated as realistically as possible and preferably with real loads and actuators.

5. FREQUENCY RANGE, DWELL TIMES

5.1. Measurements shall be made in the 20 to 1 000 MHz frequency range.

5.2. To confirm that the ESA(s) meet(s) the requirements of this Annex, the tests shall be performed at up to 14 spot frequencies in the range, for example:

27, 45, 65, 90, 120, 150, 190, 230, 280, 380, 450, 600, 750 and 900 MHz

The response time of the equipment under test shall be considered and the dwell time shall be sufficient to allow the equipment under test to react under normal conditions. In any case, it shall not be less than two seconds.

6. CHARACTERISTICS OF TEST SIGNAL TO BE GENERATED

6.1. *Maximum envelope excursion*

The maximum envelope excursion of the test signal shall equal the maximum envelope excursion of an unmodulated sine wave whose rms value is defined in point 6.4.2 of Annex I (see Appendix 3 of Annex VIII).

6.2. *Test signal wave form*

The test signal shall be a radio frequency sine wave, amplitude modulated by a 1 kHz sine wave at a modulation depth  $m$  of  $0,8 \pm 0,04$ .

6.3. *Modulation depth*

The modulation depth  $m$  is defined as:

$$m = \frac{\text{(maximum envelope excursion — minimum envelope excursion)}}{\text{(maximum envelope excursion + minimum envelope excursion)}}$$

7. STRIPLINE TESTING

7.1. *Test method*

This test method consists of subjecting the wiring harness connecting the components in an ESA to specified field strengths.

7.2. *Field strength measurement in the stripline*

At each desired test frequency a level of power shall be fed into the stripline to produce the required field strength in the test area with the ESA under test absent, this level of forward power, or another parameter directly related to the forward power required to define the field, shall be measured and the results recorded. These results shall be used for type-approval tests unless changes occur in the facilities or equipment which necessitate this procedure being repeated. During this process, the position of the field probe head shall be under the active conductor, centred in longitudinal, vertical and transversal directions. The housing of the probe's electronics shall be as far away from the longitudinal stripline axis as possible.

7.3. *Installation of the ESA under test*

7.3.1. 150 mm stripline testing

The test method allows the generation of homogeneous fields between an active conductor (the stripline 50  $\Omega$  impedance), and a ground plane (the conducting surface of the mounting table), between which part of the wiring harness may be inserted. The electronic controller(s) of the ESA under test shall be installed on the ground plane but outside the stripline with one of its edges parallel to the active conductor of the stripline. It shall be  $200 \pm 10$  mm from a line on the ground plane directly under the edge of the active conductor.

The distance between any edge of the active conductor and any peripheral device used for measurement shall be at least 200 mm.

The wiring harness section of the ESA under test shall be placed in a horizontal attitude between the active conductor and the ground plane (see Figures 1 and 2 in Appendix 1).

7.3.1.1. The minimum length of the wiring harness, which shall include the power harness to the electronic control unit and shall be placed under the stripline, shall be 1,5 m unless the wiring harness in the vehicle is less than 1,5 m. In this case, the length of the wiring harness shall be that of the longest length of harness used in the vehicle installation. Any line branches occurring in this length shall be routed perpendicularly to the longitudinal axis of the line.

7.3.1.2. Alternatively, the fully extended length of the wiring harness, including the length of the longest of any branches, shall be 1,5 m.

7.3.2. 800 mm stripline testing

7.3.2.1. Test method

The stripline consists of two parallel metallic plates separated by 800 mm. Equipment under test is positioned centrally between the plates and subjected to an electromagnetic field (see Figures 3 and 4 in Appendix 1).

This method can test complete electronic systems including sensors and actuators as well as the controller and wiring loom. It is suitable for apparatus whose largest dimension is less than one-third of the plate separation.

7.3.2.2. Positioning of stripline

The stripline shall be housed in a screened room (to prevent external emissions) and positioned 2 m away from walls and any metallic enclosure to prevent electromagnetic reflections. RF absorber material may be used to damp these reflections. The stripline shall be placed on non-conducting supports at least 0,4 m above the floor.

7.3.2.3. Calibration of the stripline

A field measuring probe shall be positioned within the central one-third of the longitudinal, vertical and transverse dimensions of the space between the parallel plates with the system under test absent. The associated measuring equipment shall be sited outside the screen room.

At each desired test frequency, a level of power shall be fed into the stripline to produce the required field strength at the antenna. This level of forward power, or another parameter directly related to the forward power required to define the field, shall be used for type-approval tests unless changes occur in the facilities or equipment which necessitate this procedure being repeated.

7.3.2.4. Installation of the ESA under test

The main control unit shall be positioned within the central one-third of the longitudinal, vertical and transverse dimensions of the space between the parallel plates. It shall be supported on a stand made from non-conducting material.

7.3.2.5. Main wiring loom and sensor/actuator cables

The main wiring loom and any sensor/actuator cables shall rise vertically from the control unit to the top ground plate (this helps to maximise coupling with the electromagnetic field). Then they shall follow the underside of the plate to one of its free edges where they shall loop over and follow the top of the ground plate as far as the connections to the stripline feed. The cables shall then be routed to the associated equipment which shall be sited in an area outside the influence of the electromagnetic field, for example: on the floor of the screened room 1 m longitudinally away from the stripline.

8. FREE FIELD ESA IMMUNITY TEST

8.1. *Test method*

This test method allows the testing of vehicle electrical/electronic systems by exposing an ESA to electromagnetic radiation generated by an antenna.

8.2. *Test bench description*

The test shall be performed inside a semi-anechoic chamber on a bench top.

### 8.2.1. Ground plane

8.2.1.1. For free field immunity testing, the ESA under test and its wiring harnesses shall be supported  $50 \pm 5$  mm above a wooden or equivalent non-conducting table. However, if any part of the ESA under test is intended to be electrically bonded to a vehicle's metal bodywork, that part shall be placed on a ground plane and shall be electrically bonded to the ground plane. The ground plane shall be a metallic sheet with a minimum thickness of 0,5 mm. The minimum size of the ground plane depends on the size of the ESA under test but shall allow for the distribution of the ESA's wiring harness and components. The ground plane shall be connected to the protective conductor of the earthing system. The ground plane shall be situated at a height of  $1,0 \pm 0,1$  m above the test facility floor and shall be parallel to it.

8.2.1.2. The ESA under test shall be arranged and connected according to its requirements. The power supply harness shall be positioned along, and within 100 mm of, the edge of the ground plane/table closest to the antenna.

8.2.1.3. The ESA under test shall be connected to the grounding system according to the manufacturer's installation specification, no additional grounding connections shall be permitted.

8.2.1.4. The minimum distance between the ESA under test and all other conductive structures, such as walls of a shielded area (with the exception of the ground plane/table underneath the test object) must be 1,0 m.

8.2.1.5. The dimension of any ground plane shall be 2,25 square metres or larger in area with the smaller side no less than 750 mm. The ground plane shall be bonded to the chamber with bonding straps such that the DC bonding resistance shall not exceed 2,5 milliohms.

### 8.2.2. Installation of ESA under test

For large equipment mounted on a metal test stand, the test stand shall be considered a part of the ground plane for testing purposes and shall be bonded accordingly. The faces of the test sample shall be located at a minimum of 200 mm from the edge of the ground plane. All leads and cables shall be a minimum of 100 mm from the edge of the ground plane and the distance to the ground plane (from the lowest point of the harness) shall be  $50 \pm 5$  mm above the ground plane. Power shall be applied to the ESA under test via an ( $5 \mu H/50 \Omega$ ) artificial network (AN).

### 8.3. *Field generating device type, position and orientation*

#### 8.3.1. Field generating device type

8.3.1.1. The field generating device type(s) shall be chosen such that the desired field strength is achieved at the reference point (see point 8.3.4) at the appropriate frequencies.

8.3.1.2. The field generating device(s) may be (an) antenna(s) or a plate antenna.

8.3.1.3. The construction and orientation of any field generating device shall be such that the generated field is polarised: from 20 to 1 000 MHz horizontally or vertically.

#### 8.3.2. Height and distance of measurement

##### 8.3.2.1. Height

The phase centre of any antenna shall be  $150 \pm 10$  mm above the ground plane on which the ESA under test rests. No parts of any antenna's radiating elements shall be closer than 250 mm to the floor of the facility.

##### 8.3.2.2. Distance of measurement

8.3.2.2.1. In-service conditions may best be approximated by placing the field generating device as far from the ESA as practical. This distance will typically lie within the range 1 to 5 m.

8.3.2.2.2. If the test is carried out in an enclosed facility, the field generating device's radiating elements shall be no closer than 0,5 m to any radio absorbent material and no closer than 1,5 m to the wall of the facility. There shall be no absorbent material interposed between the transmitting antenna and the ESA under test.

- 8.3.3. Antenna location relative to ESA under test
- 8.3.3.1. The field generating device's radiating elements shall not be closer than 0,5 m to the edge of the ground plane.
- 8.3.3.2. The phase centre of the field generating device shall be on a plane which:
- (a) is perpendicular to the ground plane;
  - (b) bisects the edge of the ground plane and the midpoint of the principal portion of the wiring harness; and
  - (c) is perpendicular to the edge of the ground plane and the principal portion of the wiring harness.
- The field generating device shall be placed parallel to this plane (see Figures 1 and 2 in Appendix 4).
- 8.3.3.3. Any field generating device which is placed over the ground plane or ESA under test shall extend over the ESA under test.
- 8.3.4. Reference point
- For the purpose of this Annex the reference point is the point at which the field strength shall be established and shall be defined as follows:
- 8.3.4.1. at least 1 m horizontally from the antenna phase centre or at least 1 m vertically from the radiating elements of a plate antenna;
- 8.3.4.2. on a plane which:
- (a) is perpendicular to the ground plane;
  - (b) is perpendicular to the edge of the ground plane along which the principal portion of the wiring harness runs;
  - (c) bisects the edge of the ground plane and the midpoint of the principal portion of the wiring harness; and
  - (d) is coincident with the midpoint of the principal portion of the harness which runs along the edge of the ground plane closest to the antenna;
- 8.3.4.3. 150 ± 10 mm above the ground plane.
- 8.4. *Generation of required field strength: test methodology*
- 8.4.1. The 'substitution method' shall be used to establish the test field conditions.
- 8.4.2. Substitution method
- At each desired test frequency, a level of power shall be fed into the field generating device to produce the required field strength at the reference point (as defined in point 8.3.4 in the test area with the ESA under test absent), this level of forward power, or another parameter directly related to the forward power required to define the field, shall be measured and the results recorded. These results shall be used for type-approval tests unless changes occur in the facilities or equipment which necessitates this procedure being repeated.
- 8.4.3. Extraneous equipment must be a minimum of 1 m from the reference point during calibration.
- 8.4.4. Field strength measuring device
- A suitable compact field strength measuring device shall be used to determine the field strength during the calibration phase of the substitution method.
- 8.4.5. The phase centre of the field strength measuring device shall be positioned at the reference point.
- 8.4.6. The ESA under test which may include an additional ground plane shall then be introduced into the test facility and positioned in accordance with the requirements of point 8.3. If a second ground plane is used, then it shall be within 5 mm of the bench ground plane and electrically bounded to it. The required forward power defined in point 8.4.2 at each frequency as defined in point 5 shall then be applied to the field generating device.

8.4.7. Whatever parameter was chosen in point 8.4.2 to define the field, the same parameter shall be used to determine the field strength during the test.

8.5. *Field strength contour*

8.5.1. During the calibration phase of the substitution method (prior to an ESA under test being introduced into the test area), the field strength shall not be less than 50 % of the nominal field strength  $0,5 \pm 0,05$  m either side of the reference point on a line parallel to the edge of the ground plane nearest to the antenna and passing through the reference point.

9. TEM CELL TESTING

9.1. *Test method*

The transverse electromagnetic mode (TEM) cell generates homogeneous fields between the internal conductor (septum) and housing (ground plane). It is used for testing ESAs (see Figure 1 in Appendix 3).

9.2. *Field strength measurement in a TEM cell*

9.2.1. The electric field in the TEM cell shall be determined by using the equation:

$$|E| = (\sqrt{P \times Z})/d$$

E = Electric field (volts/metre)

P = Power flowing into cell (W)

Z = Impedance of cell (50  $\Omega$ )

d = Separation distance (metres) between the upper wall and the plate (septum).

9.2.2. Alternatively an appropriate field strength sensor shall be placed in the upper half of the TEM cell. In this part of the TEM cell the electronic control unit(s) has only a small influence on the test field. The output of this sensor shall determine the field strength.

9.3. *Dimensions of TEM cell*

In order to maintain a homogeneous field in the TEM cell and to obtain repeatable measurement results, the test object shall not be larger than one-third of the cell inside height.

Recommended TEM cell dimensions are given in Appendix 3, Figures 2 and 3.

9.4. *Power, signal and control wires*

The TEM cell shall be attached to a co-axial socket panel and connected as closely as possible to a plug connector with an adequate number of pins. The supply and signal leads from the plug connector in the cell wall shall be directly connected to the test object.

The external components such as sensors, power supply and control elements can be connected:

- (a) to a screened peripheral;
- (b) to a vehicle next to the TEM cell; or
- (c) directly to the screened patchboard.

Screened cables must be used in connecting the TEM cell to the peripheral or the vehicle if the vehicle or peripheral is not in the same or adjacent screened room.

10. BULK CURRENT INJECTION TESTING

10.1. *Test method*

This is a method of carrying out immunity tests by inducing currents directly into a wiring harness using a current injection probe. The injection probe consists of a coupling clamp through which the cables of the ESA under test are passed. Immunity tests can then be carried out by varying the frequency of the induced signals.

The ESA under test may be installed on a ground plane as in point 8.2.1 or in a vehicle in accordance with the vehicle design specification.

10.2. *Calibration of bulk current injection probe prior to commencing tests*

The injection probe shall be mounted in a calibration jig. Whilst sweeping the test frequency range, the power required to achieve the current specified in point 6.7.2.1 of Annex I shall be monitored. This method calibrates the bulk current injection system forward power versus current prior to testing, and it is this forward power which shall be applied to the injection probe when connected to the ESA under test via the cables used during calibration. It should be noted that the monitored power applied to the injection probe is the forward power.

10.3. *Installation of the ESA under test*

For an ESA mounted on a ground plane as in point 8.2.1 all cables in the wiring harness shall be terminated as realistically as possible and preferably with real loads and actuators. For both vehicle mounted and ground plane mounted ESAs the current injection probe shall be mounted in turn around all the wires in the wiring harness to each connector and  $150 \pm 10$ mm from each connector of the ESA under test electronic control units (ECU), instrument modules or active sensors as illustrated in Appendix 2.

10.4. *Power, signal and control wires*

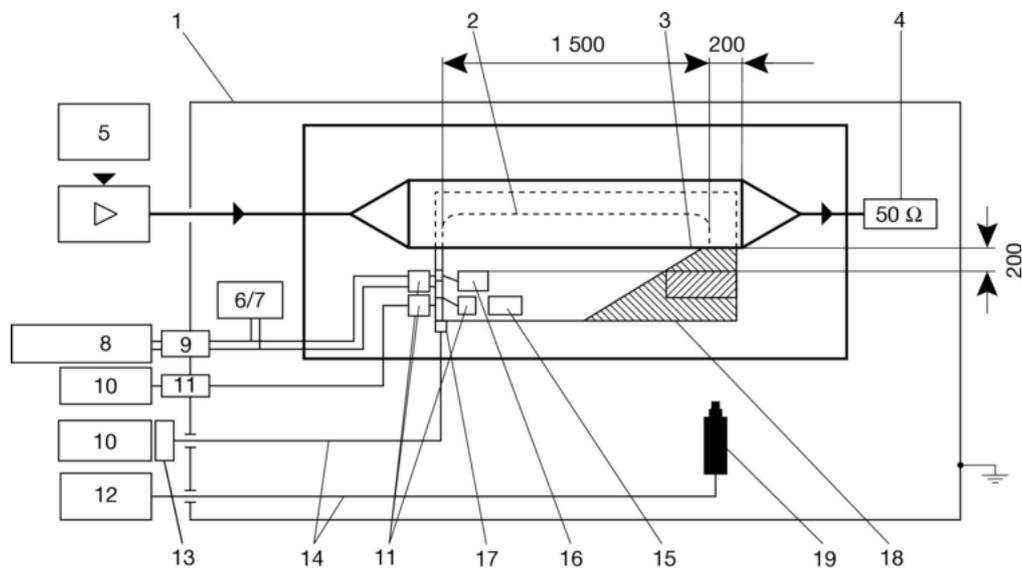
For an ESA under test mounted on a ground plane as in point 8.2.1, a wiring harness shall be connected between an artificial network (AN) and the principal electronic control unit (ECU). This harness shall run parallel to the edge of the ground plane and 200 mm minimum from its edge. This harness shall contain the power feed wire which is used to connect the vehicle battery to this ECU and the power return wire if used on the vehicle.

The distance from the ECU to the AN shall be  $1,0 \pm 0,1$  m or shall be the harness length between the ECU and the battery as used on the vehicle, if known, whichever is the shorter. If a vehicle harness is used then any line branches which occur in this length shall be routed along the ground plane but perpendicular away from the edge of the ground plane. Otherwise the ESA under test wires which are in this length shall break out at the AN.

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## Appendix 1

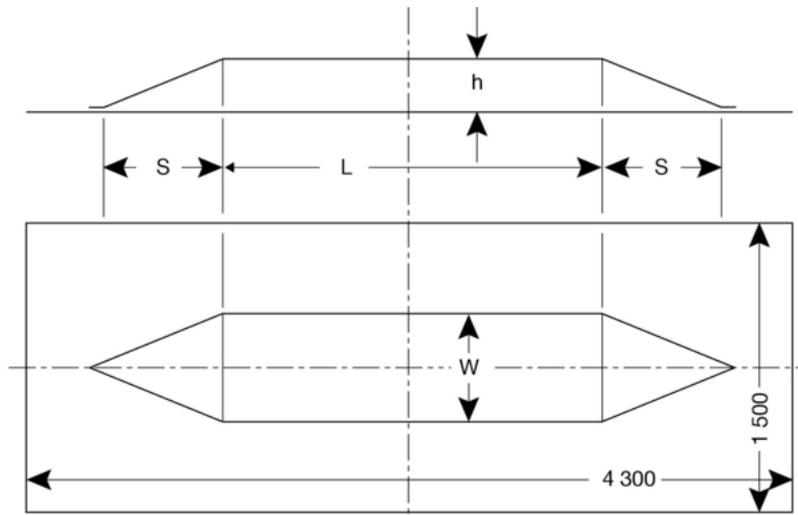
**Figure 1**  
150 mm stripline testing



- 1 = Shielded room
- 2 = Cable harness
- 3 = Test object
- 4 = Terminating resistance
- 5 = Frequency generator
- 6/7 = Alternative battery
- 8 = Power supply
- 9 = Filter
- 10 = Peripheral
- 11 = Filter
- 12 = Video peripheral
- 13 = Opto-electrical converter
- 14 = Optical lines
- 15 = Non irradiation-proof peripheral
- 16 = Linear or radiation-proof peripheral
- 17 = Opto-electrical converter
- 18 = Insulating base
- 19 = Video camera

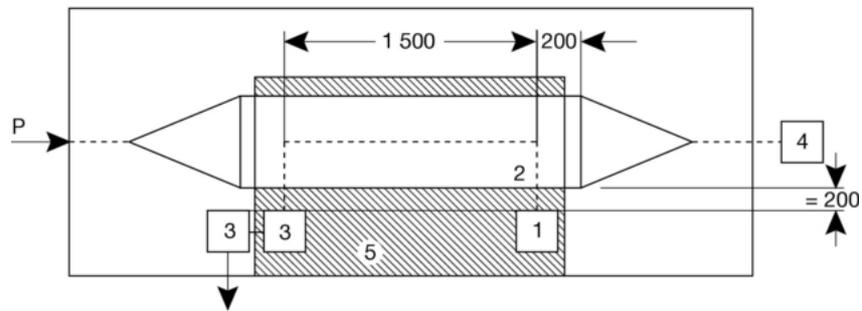
All dimensions in millimetres

**Figure 2**  
150 mm stripline testing



- $L = 2\ 500\ \text{mm}$
- $S = 800\ \text{mm}$
- $W = 740\ \text{mm}$
- $h = 150\ \text{mm}$

All dimensions in millimetres



- 1 = Test object
- 2 = Cable harness
- 3 = Peripheral
- 4 = Terminating resistance
- 5 = Insulating base

**Figure 3**  
800 mm stripline testing

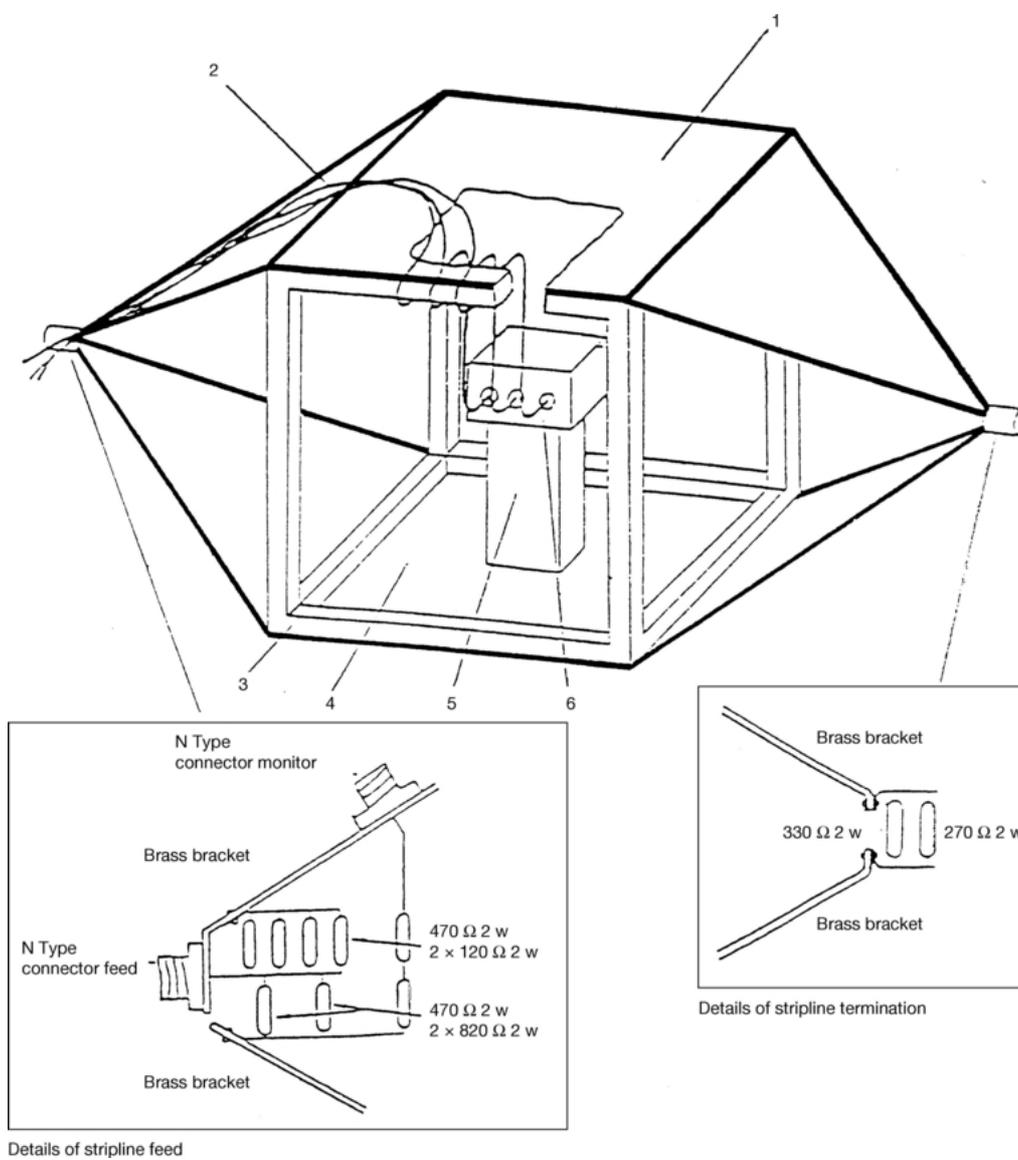
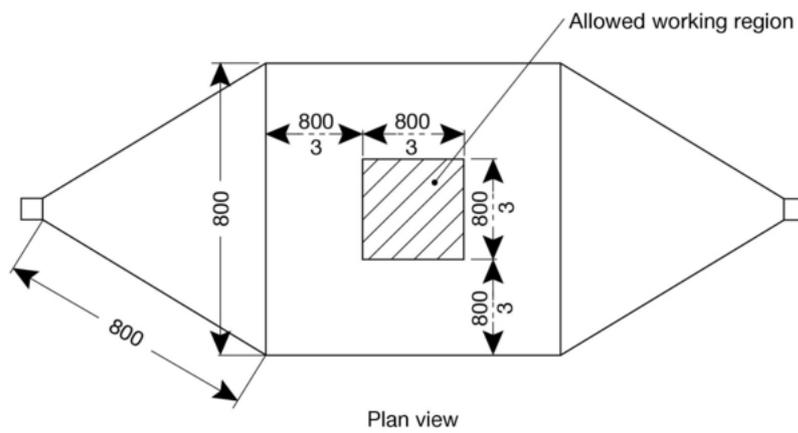
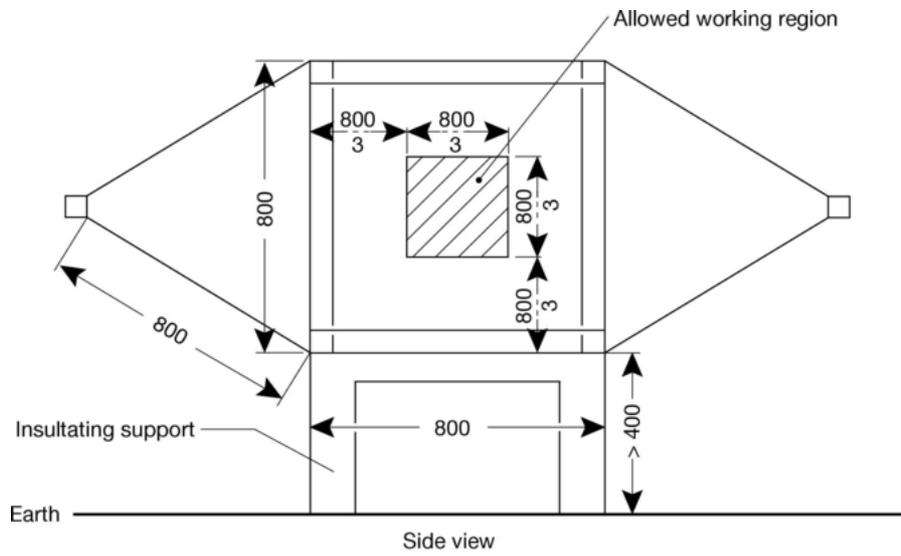


Figure 4

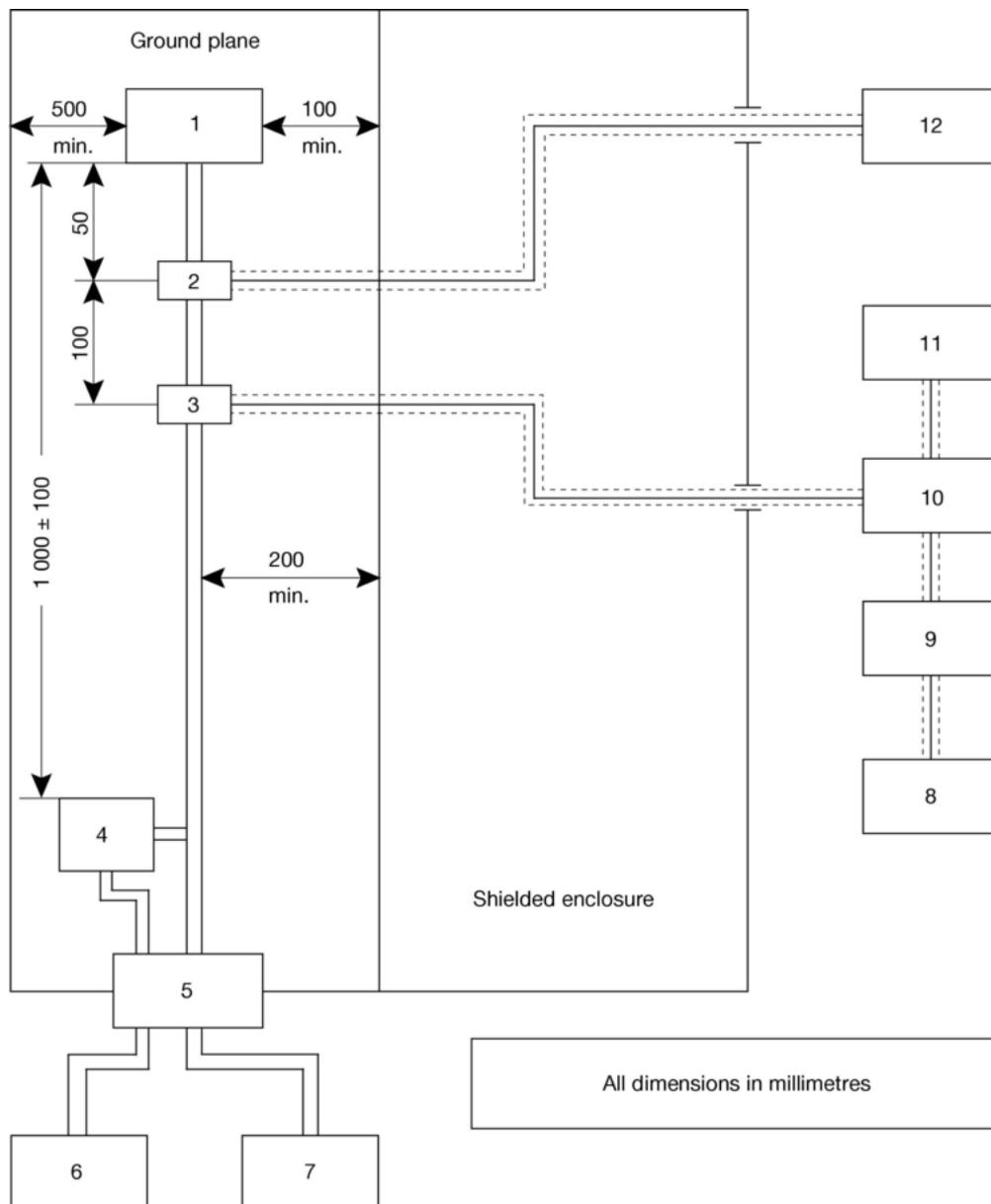
800 mm stripline dimensions



All dimensions in millimetres

## Appendix 2

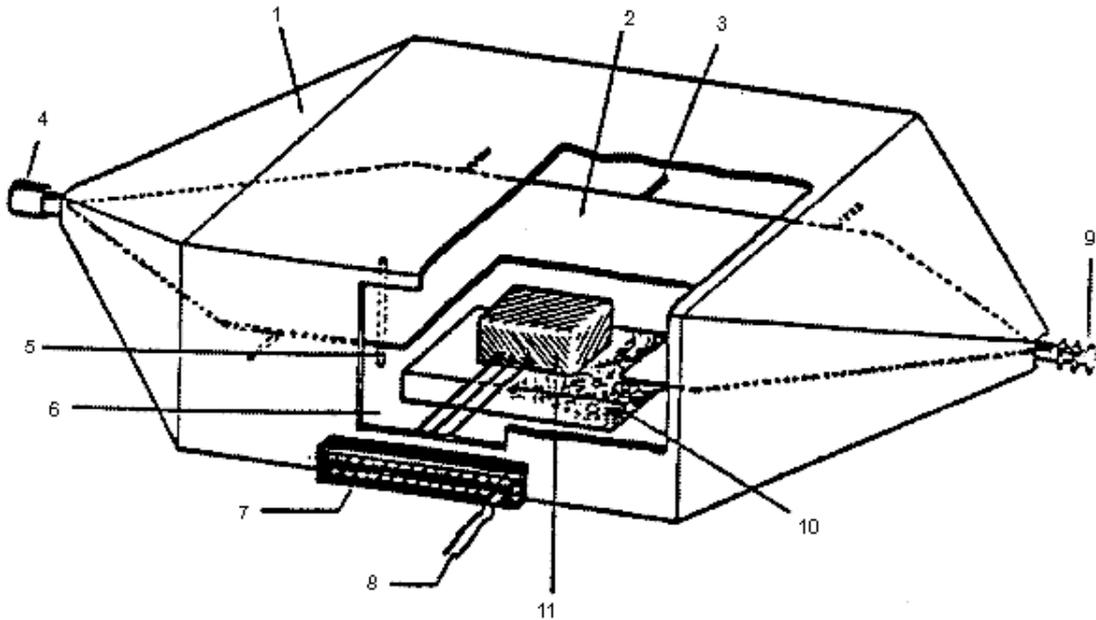
## Example of BCI test configuration



- 1 = DUT
- 2 = RF measuring probe (optional)
- 3 = RF injection probe
- 4 = Artificial network
- 5 = Shielded room filter network
- 6 = Power source
- 7 = DUT interface: stimulation and monitoring equipment
- 8 = Signal generator
- 9 = Broadband amplifier
- 10 = RF 50 Ω directional coupler
- 11 = RF power level measuring device or equivalent
- 12 = Spectrum analyser or equivalent (optional)

## Appendix 3

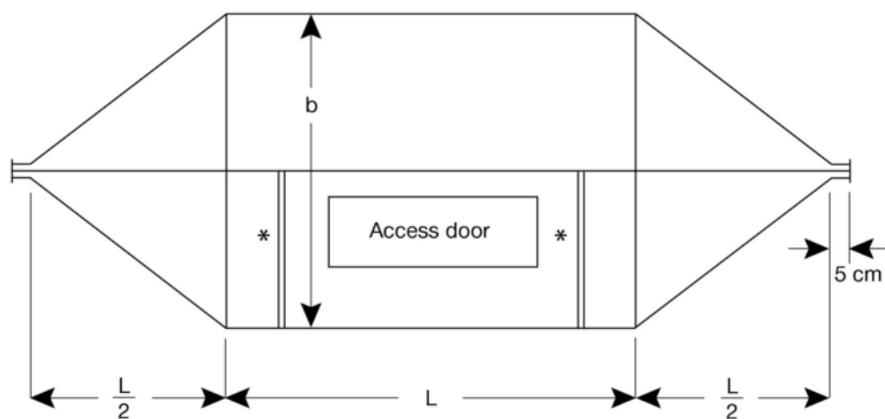
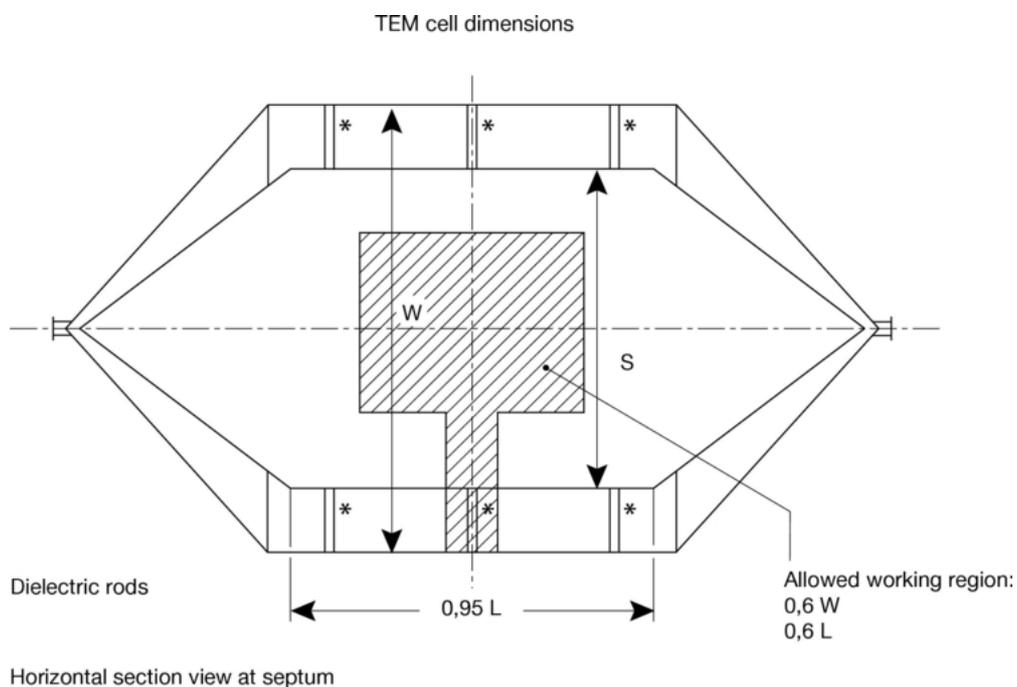
**Figure 1**  
TEM cell testing



- 1 = Outer conductor, shield
- 2 = Inner conductor (septum)
- 3 = Insulator
- 4 = Input
- 5 = Insulator
- 6 = Door
- 7 = Socket panel
- 8 = Test object power supply
- 9 = Terminating resistance 50  $\Omega$
- 10 = Insulation
- 11 = Test object (maximum height one third of distance between cell floor and septum)

**Figure 2**

Design of rectangular TEM cell

**Figure 3**

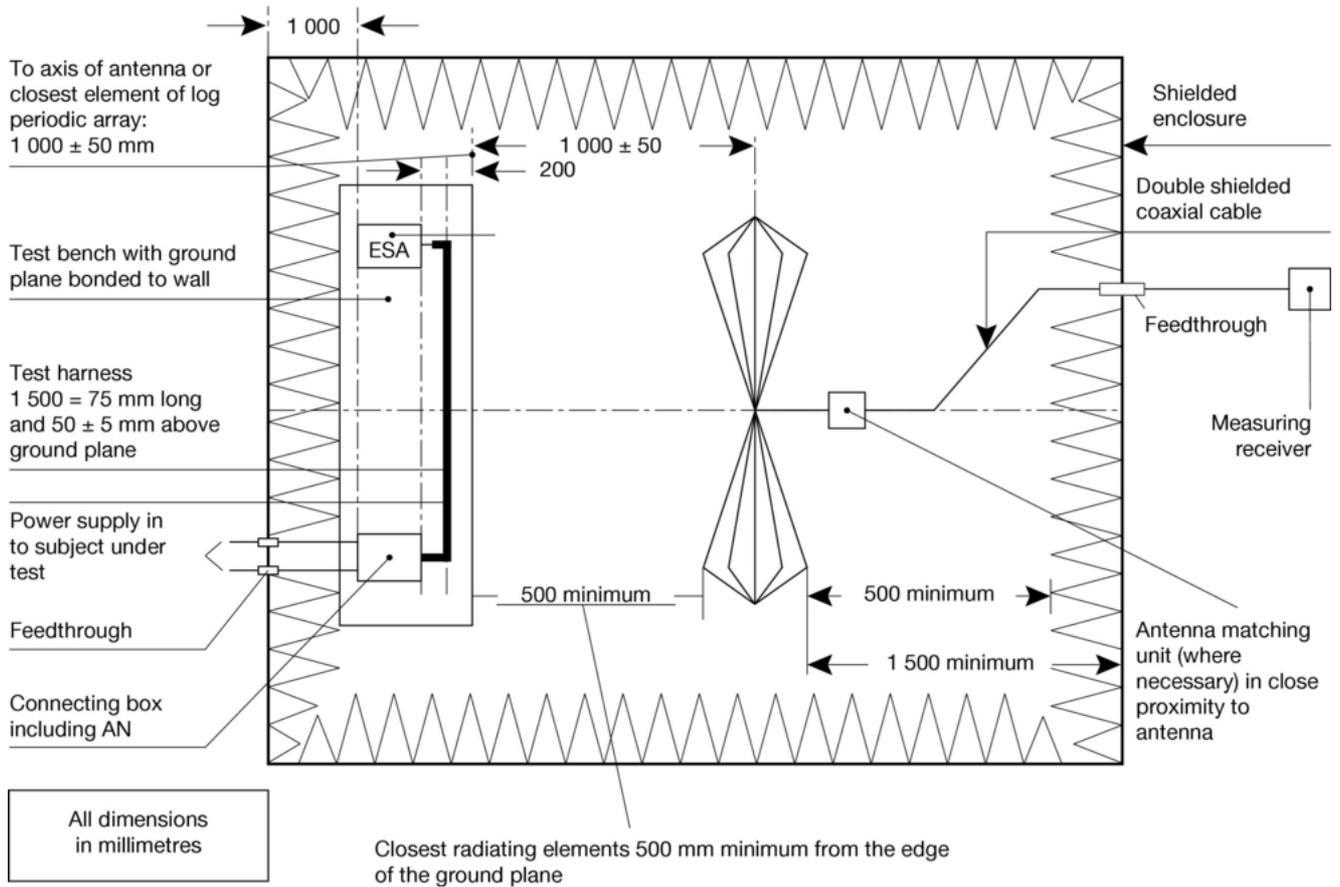
The following table shows the dimensions for constructing a cell with specified upper frequency limits:

Upper frequency (MHz)	Cell form factor W: b	Cell form factor L/W	Plate separation b (cm)	Septum S (cm)
200	1,69	0,66	56	70
200	1,00	1,00	60	50

Typical TEM cell dimensions

Appendix 4

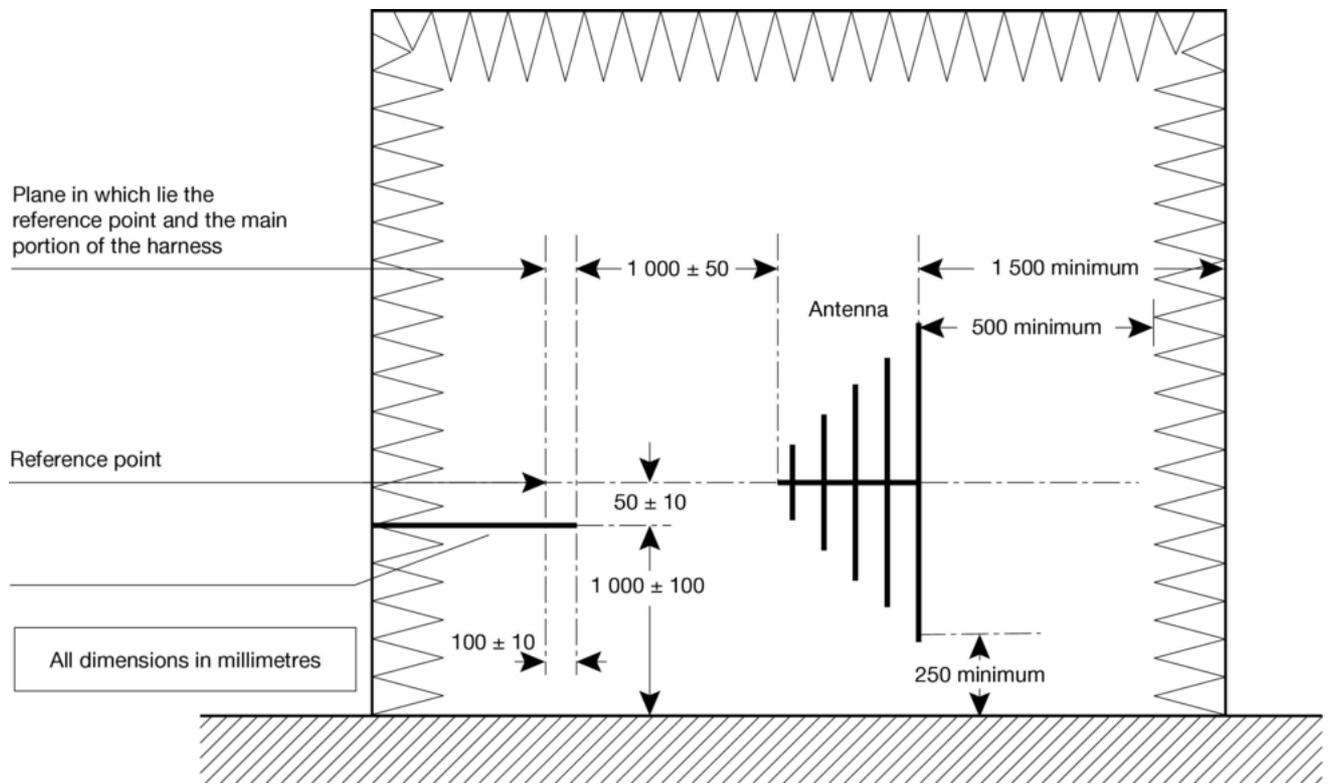
Figure 1



Free field ESA immunity test

Test layout (general plan view)

Figure 2



Free field ESA immunity test

View of test bench plane of longitudinal symmetry



## ANNEX XII

## PART A

**Repealed Directive with list of its successive amendments**

(referred to in Article 6)

Council Directive 75/322/EEC

(OJ L 147, 9.6.1975, p. 28)

Council Directive 82/890/EEC (OJ L 378, 31.12.1982, p. 45)	only as regards the reference to Directive 75/322/EEC in Article 1(1)
Directive 97/54/EC of the European Parliament and of the Council (OJ L 277, 10.10.1997, p. 24)	only as regards the reference to Directive 75/322/EEC in the first indent of Article 1
Commission Directive 2000/2/EC (OJ L 21, 26.1.2000, p. 23)	Article 1 and Annex only
Commission Directive 2001/3/EC (OJ L 28, 30.1.2001, p. 1)	Article 2 and Annex II only
Point I.A.13 of Annex II to the 2003 Act of Accession (OJ L 236, 23.9.2003, p. 57)	
Council Directive 2006/96/EC (OJ L 363, 20.12.2006, p. 81)	only as regards the reference to Directive 75/322/EEC in Article 1 and Annex, point A.12.

## PART B

**List of time-limits for transposition into national law and application**

(referred to in Article 6)

Directive	Time-limit for transposition	Date of application
75/322/EEC	21 November 1976	—
82/890/EEC	21 June 1984	—
97/54/EC	22 September 1998	23 September 1998
2000/2/EC	31 December 2000 <sup>(1)</sup>	—
2001/3/EC	30 June 2002	—
2006/96/EC	31 December 2006	—

<sup>(1)</sup> In conformity with Article 2 of Directive 2000/2/EC:

1. With effect from 1 January 2001, Member States may not, on grounds relating to electromagnetic compatibility:
  - refuse to grant EC type-approval or national type-approval in respect of any given type of vehicle,
  - refuse to grant EC component or technical unit type-approval in respect of any given type of component or separate technical unit,
  - prohibit the registration, sale or entry into service of vehicles,
  - prohibit the sale or use of components or separate technical units,
 if the vehicles, components or separate technical units comply with the requirements of Directive 75/322/EEC, as amended by this Directive.
2. With effect from 1 October 2002, Member States:
  - may no longer grant EC vehicle type-approval, EC component type-approval or EC separate technical unit type-approval, and
  - may refuse to grant national type-approval,
 for any type of vehicle component or separate technical unit, if the requirements of Directive 75/322/EEC, as amended by this Directive, are not fulfilled.
3. Paragraph 2 shall not apply to vehicle types approved before 1 October 2002 pursuant to Council Directive 77/537/EEC <sup>(2)</sup> nor to any subsequent extensions to these approvals.
4. With effect from 1 October 2008, Member States:
  - shall consider certificates of conformity which accompany new vehicles in accordance with the provisions of Directive 74/150/EEC to be no longer valid for the purposes of Article 7(1) of that Directive, and

— may refuse the sale and entry into service of new electrical or electronic sub-assemblies as components or separate technical units,

if the requirements of this Directive are not fulfilled.

5. Without prejudice to paragraphs 2 and 4, in the case of replacement parts, Member States shall continue to grant EC type-approval and to permit the sale and entry into service of components or separate technical units intended for use on vehicle types which have been approved before 1 October 2002 pursuant to Directive 75/322/EEC or Directive 77/537/EEC and, where applicable, subsequent extensions to these approvals.

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(\*) OJ L 220, 29.8.1977, p. 38.

## ANNEX XIII

## CORRELATION TABLE

Directive 75/322/EEC	Directive 2000/2/EC	This Directive
Article 1	Article 2	Article 1
Article 4		Article 2
Article 5		Article 3
Article 6(1)		Article 4
Article 6(2)		—
—		Article 5
—		Article 6
Article 7		Article 7
Annex I		Article 8
Annex IIA		Annex I
Annex IIB		Annex II
Annex IIIA		Annex III
Annex IIIB		Annex IV
Annex IV		Annex V
Annex V		Annex VI
Annex VI		Annex VII
Annex VII		Annex VIII
Annex VIII		Annex IX
Annex IX		Annex X
—		Annex XI
—		Annex XII
		Annex XIII

**DIRECTIVE 2009/81/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**

**of 13 July 2009**

**on the coordination of procedures for the award of certain works contracts, supply contracts and service contracts by contracting authorities or entities in the fields of defence and security, and amending Directives 2004/17/EC and 2004/18/EC**

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 47(2) and Articles 55 and 95 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Economic and Social Committee <sup>(1)</sup>,

Acting in accordance with the procedure laid down in Article 251 of the Treaty <sup>(2)</sup>,

Whereas:

- (1) National security remains the sole responsibility of each Member State, in the fields of both defence and security.
- (2) The gradual establishment of a European defence equipment market is essential for strengthening the European Defence Technological and Industrial Base and developing the military capabilities required to implement the European Security and Defence Policy.
- (3) Member States agree on the need to foster, develop and sustain a European Defence Technological and Industrial Base that is capability driven, competent and competitive. In order to achieve this objective, Member States may use different tools, in conformity with Community law, aiming at a truly European defence equipment market and a level playing field at both European and global levels. They should also contribute to the in-depth development of the diversity of the European defence-related supplier base, in particular by supporting the involvement of small and medium-sized enterprises (SMEs) and non-traditional suppliers in the European Defence Technological and Industrial Base, fostering industrial cooperation and promoting efficient and responsive lower tier suppliers. In this context, they should take into account the Commission's Interpretative Communication of 7 December 2006 on the

application of Article 296 of the Treaty in the field of defence procurement and the Commission Communication of 5 December 2007 on a Strategy for a stronger and more competitive European defence industry.

- (4) One prerequisite for the creation of a European defence equipment market is the establishment of an appropriate legislative framework. In the field of procurement, this involves the coordination of procedures for the award of contracts to meet the security requirements of Member States and the obligations arising from the Treaty.
- (5) To achieve this objective, in its resolution of 17 November 2005 on the Green Paper on defence procurement <sup>(3)</sup>, the European Parliament called on the Commission to draft a directive taking particular account of the security interests of Member States, further developing the common foreign and security policy, promoting greater European cohesion and preserving the role of the Union as a 'civil power'.
- (6) Better coordination of award procedures, for instance for contracts regarding logistics services, transportation and warehousing, also have the potential to reduce costs in the defence sector and significantly lower the sector's environmental impact.
- (7) These procedures should reflect the Union's overall approach to security, which responds to changes in the strategic environment. The emergence of asymmetrical transnational threats has increasingly blurred the boundary between external and internal and military and non-military security.
- (8) Defence and security equipment is vital for both the security and the sovereignty of Member States and for the autonomy of the Union. As a result, purchases of goods and services in the defence and security sectors are often of a sensitive nature.
- (9) This results in specific requirements, particularly in the fields of security of supply and security of information. These requirements relate especially to purchases of arms, munitions and war material for the armed forces, as well as services and works directly relating thereto, but also to certain particularly sensitive purchases in the field of non-military security. In these fields, the absence of Union-wide

<sup>(1)</sup> OJ C 100, 30.4.2009, p. 114.

<sup>(2)</sup> Opinion of the European Parliament of 14 January 2009 (not yet published in the Official Journal) and Council Decision of 7 July 2009.

<sup>(3)</sup> OJ C 280 E, 18.11.2006, p. 463.

regimes hampers the openness of defence and security markets between Member States. This situation requires rapid improvement. An Union-wide regime on security of information, including the mutual recognition of national security clearances and allowing the exchange of classified information between contracting authorities/entities and European companies, would be particularly useful. At the same time, Member States should take concrete measures to improve security of supply between them aiming at the progressive establishment of a system of appropriate guarantees.

- (10) For the purposes of this Directive, military equipment should be understood in particular as the product types included in the list of arms, munitions and war material adopted by the Council in its Decision 255/58 of 15 April 1958 <sup>(1)</sup>, and Member States may limit themselves to this list only when transposing this Directive. This list includes only equipment which is designed, developed and produced for specifically military purposes. However, the list is generic and is to be interpreted in a broad way in the light of the evolving character of technology, procurement policies and military requirements which lead to the development of new types of equipment, for instance on the basis of the Common Military List of the Union. For the purposes of this Directive, military equipment should also cover products which, although initially designed for civilian use, are later adapted to military purposes to be used as arms, munitions or war material.
- (11) In the specific field of non-military security, this Directive should apply to procurements which have features similar to those of defence procurements and are equally sensitive. This can be the case in particular in areas where military and non-military forces cooperate to fulfil the same missions and/or where the purpose of the procurement is to protect the security of the Union and/or the Member States, on their own territory or beyond it, against serious threats from non-military and/or non-governmental actors. This may involve, for example, border protection, police activities and crisis management missions.
- (12) This Directive should take account of the needs of the contracting authority/entity throughout the whole life cycle of the product, i.e., research and development, industrial development, production, repair, modernisation, modification, maintenance, logistics, training, testing, withdrawal and disposal. These stages include, for example, studies, evaluation, storage, transport, integration, servicing, dismantling, destruction and all other services following the initial design. Some contracts may include the supply of

parts, components and/or subassemblies to be incorporated in or affixed to products, and/or the supply of specific tools, test facilities or support.

- (13) For the purposes of this Directive, research and development should cover fundamental research, applied research and experimental development. Fundamental research consists in experimental or theoretical work undertaken mainly with a view to acquiring new knowledge regarding the underlying foundation of phenomena and observable facts, without any particular application or use in view. Applied research also consists of original work undertaken with a view to acquiring new knowledge. However, it is directed primarily towards a particular practical end or objective. Experimental development consists in work based on existing knowledge obtained from research and/or practical experience with a view to initiating the manufacture of new materials, products or devices, establishing new processes, systems and services or considerably improving those that already exist. Experimental development may include the realisation of technological demonstrators, i.e. devices demonstrating the performance of a new concept or a new technology in a relevant or representative environment.

Research and development does not include the making and qualification of pre-production prototypes, tools and industrial engineering, industrial design or manufacture.

- (14) This Directive should take account of the needs of the contracting authority/entity for works and services which, although not directly linked to the supply of military equipment or sensitive equipment, are necessary to fulfil certain military or security requirements.
- (15) The award of contracts concluded in the Member States by contracting entities as referred to in Directive 2004/17/EC of the European Parliament and of the Council of 31 March 2004 coordinating the procurement procedures of entities operating in the water, energy, transport and postal services sectors <sup>(2)</sup> and by contracting authorities as referred to in Directive 2004/18/EC of the European Parliament and of the Council of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts <sup>(3)</sup> is subject to compliance with the principles of the Treaty and in particular the free movement of goods, the freedom of establishment and the freedom to provide services, and with the principles deriving therefrom, such as the principles of equal treatment, non-discrimination, mutual recognition, proportionality and transparency.

<sup>(1)</sup> Decision defining the list of products (arms, munitions and war material) to which the provisions of Article 223(1)(b) — now Article 296(1)(b) — of the Treaty apply (doc. 255/58). Minutes of 15 April 1958: doc. 368/58.

<sup>(2)</sup> OJ L 134, 30.4.2004, p. 1.

<sup>(3)</sup> OJ L 134, 30.4.2004, p. 114.

Transparency and competition obligations for contracts below the application thresholds for this Directive should be determined by Member States in compliance with those principles and taking account, in particular, of situations where there is a cross-border interest. In particular, it is for Member States to determine the most suitable arrangements for awarding such contracts.

For contracts above a certain value, it is advisable to draw up provisions for the Community coordination of national procedures for the award of such contracts which are based on these principles so as to guarantee their effects and an effective opening-up of procurement to competition. These coordinating provisions should therefore be interpreted in accordance with both the above-mentioned rules and principles and with other rules of the Treaty.

- (16) Articles 30, 45, 46, 55 and 296 of the Treaty make provision for specific exceptions to the application of the principles set out in the Treaty and, consequently, to the application of law derived therefrom. It therefore follows that none of the provisions of this Directive should prevent the imposition or application of any measures considered necessary to safeguard interests recognised as legitimate by these provisions of the Treaty.

This means in particular that the award of contracts which fall within the field of application of this Directive can be exempted from the latter where this is justified on grounds of public security or necessary for the protection of essential security interests of a Member State. This can be the case for contracts in the fields of both defence and security which necessitate such extremely demanding security of supply requirements or which are so confidential and/or important for national sovereignty that even the specific provisions of this Directive are not sufficient to safeguard Member States' essential security interests, the definition of which is the sole responsibility of Member States.

- (17) Nevertheless, in accordance with the case-law of the Court of Justice of the European Communities, the possibility of recourse to such exceptions should be interpreted in such a way that their effects do not extend beyond that which is strictly necessary for the protection of the legitimate interests that those Articles help to safeguard. Thus, the non-application of this Directive must be proportionate to the aims pursued and cause as little disturbance as possible to the free movement of goods and the freedom to provide services.
- (18) Contracts relating to arms, munitions and war material awarded by contracting authorities/entities operating in the field of defence are excluded from the scope of the Government Procurement Agreement (GPA) concluded at

the World Trade Organization. The other contracts covered by this Directive are also exempted from the application of the GPA by virtue of Article XXIII thereof. Article 296 of the Treaty and Article XXIII(1) of the GPA have a different scope and are subject to different standards of judicial review. Member States may still rely on Article XXIII(1) of the GPA in situations where Article 296 of the Treaty cannot be invoked. The two provisions have therefore to meet different conditions for application.

This exclusion means also that in the specific context of defence and security markets, Member States retain the power to decide whether or not their contracting authority/entity may allow economic operators from third countries to participate in contract award procedures. They should take that decision on grounds of value for money, recognizing the need for a globally competitive European Defence Technological and Industrial Base, the importance of open and fair markets and the obtaining of mutual benefits. Member States should press for increasingly open markets. Their partners should also demonstrate openness, on the basis of internationally-agreed rules, in particular as concerns open and fair competition.

- (19) A contract shall be deemed to be a works contract only if its subject-matter specifically covers the execution of activities under Division 45 of the 'Common Procurement Vocabulary' laid down by Regulation (EC) No 2195/2002 of the European Parliament and of the Council of 5 November 2002 on the Common Procurement Vocabulary (CPV) <sup>(1)</sup> (hereinafter the 'CPV'), even if the contract covers the provision of other services necessary for the execution of such activities. Service contracts may, in some cases, include works. However, insofar as such works are incidental to the principal subject-matter of the contract, and are only a possible consequence thereof or a complement thereto, the fact that such works are included in the contract does not justify the qualification of the contract as a works contract.
- (20) Defence and security contracts often contain classified information which the laws, regulations or administrative provisions in force in the Member State concerned require, for security reasons, to be protected from unauthorised access. In the military field, the Member States have systems for classifying this information for military purposes. However, when it comes to non-military security matters, there is more diversity in Member States' practice, where other information must similarly be protected. Therefore, it is appropriate to make use of a concept which takes into account the diversity of practices in Member States and can

<sup>(1)</sup> OJ L 340, 16.12.2002, p. 1.

encompass both the military and non-military fields. At any rate, procurement in these fields should not, where appropriate, affect the obligations arising from Commission Decision 2001/844/EC, ECSC, Euratom of 29 November 2001 amending its internal Rules of Procedure <sup>(1)</sup> or Council Decision 2001/264/EC of 19 March 2001 adopting the Council's security regulations <sup>(2)</sup>.

Moreover, Article 296(1)(a) of the Treaty gives Member States the possibility to exempt contracts in the fields of both defence and security from the rules of this Directive if the application of this Directive would oblige them to supply information, the disclosure of which they consider contrary to the essential interests of their security. This can be the case in particular where contracts are so sensitive that their very existence must be kept secret.

(21) The contracting authorities/entities should be allowed to use framework agreements, which makes it necessary to provide a definition of framework agreements and specific rules. Under these rules, when a contracting authority/entity enters into a framework agreement in accordance with the provisions of this Directive relating, in particular, to advertising, time-limits and conditions for the submission of tenders, it may enter into contracts based on this framework agreement during its term of validity either by applying the terms set forth in the framework agreement or, if not all terms have been fixed in advance, by reopening competition between the parties to the framework agreement. The reopening of competition should comply with certain rules, the aim of which is to guarantee the required flexibility and compliance with the general principles, in particular the principle of equal treatment. For the same reasons, the term of framework agreements should be limited and should not exceed seven years, except in cases that are duly justified by the contracting authorities/entities.

(22) Contracting authorities/entities may make use of electronic purchasing techniques, providing such use complies with the rules drawn up under this Directive and with the principles of equal treatment, non-discrimination and transparency. Since use of the technique of electronic auctions is likely to increase, such auctions should be given a Community definition and governed by specific rules in order to ensure that they operate in full accordance with those principles. To that end, provision should be made for such electronic auctions to deal only with contracts for works, supplies or services for which the specifications can be

determined with precision. Such may in particular be the case for recurring supplies, works and service contracts. With the same objective, it must also be possible to establish the respective ranking of the tenderers at any stage of the electronic auction. Recourse to electronic auctions enables contracting authorities/entities to ask tenderers to submit new prices, revised downwards, and when the contract is awarded to the most economically advantageous tender, also to improve elements of the tenders other than prices. In order to guarantee compliance with the principle of transparency, only the elements suitable for automatic evaluation by electronic means, without any intervention and/or appreciation by the contracting authority/entity, may be the object of electronic auctions, that is, only the elements which are quantifiable so that they can be expressed in figures or percentages. On the other hand, those aspects of tenders which imply an appreciation of non-quantifiable elements should not be the object of electronic auctions. Consequently, certain works contracts and certain service contracts having as their subject-matter intellectual performances, such as the design of works, should not be the object of electronic auctions.

(23) Centralised purchasing techniques help to increase competition and streamline purchasing. Consequently, Member States should be allowed to provide that contracting authorities/entities may purchase goods, works and/or services through a central purchasing body. Provision should therefore be made for a Community definition of central purchasing bodies and of the conditions under which, in accordance with the principles of non-discrimination and equal treatment, contracting authorities/entities purchasing works, supplies and/or services through a central purchasing body may be deemed to have complied with this Directive. A contracting authority/entity which is bound to apply this Directive should in any event be eligible to act as a central purchasing body. At the same time, Member States should also be free to designate European public bodies not subject to this Directive, such as the European Defence Agency, as central purchasing bodies, provided that such bodies apply procurement rules compliant with all the provisions of this Directive to those purchases.

(24) Contracting authorities/entities may find themselves obliged to award a single contract for acquisitions which is covered partially by this Directive, with the remaining part either falling within the scope of Directive 2004/17/EC or Directive 2004/18/EC or not being subject to this Directive, Directive 2004/17/EC or Directive 2004/18/EC. This applies when the relevant procurements cannot, for objective reasons, be separated and awarded through separate contracts. In such cases the contracting authorities/entities should be able to award a single contract, provided that their decision is not taken for the purpose of excluding contracts from the application of this Directive or of Directive 2004/17/EC or Directive 2004/18/EC.

<sup>(1)</sup> OJ L 317, 3.12.2001, p. 1.

<sup>(2)</sup> OJ L 101, 11.4.2001, p. 1.

- (25) Multiplying the number of thresholds for applying coordinated provisions complicates matters for contracting authorities/entities. Given the average value of contracts in the fields of defence and security, it is appropriate to align the application thresholds of this Directive to the thresholds that already have to be met by contracting entities in applying Directive 2004/17/EC. The thresholds of this Directive should also be revised together with those of Directive 2004/17/EC when the latter thresholds are revised.
- (26) In addition, provision should be made for cases where this Directive does not apply because specific rules on the awarding of contracts which derive from international agreements or arrangements between Member States and third countries apply. The rules under certain agreements relating to the stationing of troops from a Member State in another Member State or a third country, or the stationing of troops from a third country in a Member State, should also preclude the use of award procedures under this Directive. This Directive should not apply either to contracts awarded by international organisations for their purposes or to contracts which must be awarded by a Member State in accordance with rules that are specific to such organisations.
- (27) In the fields of defence and security, some contracts are so sensitive that it would be inappropriate to apply this Directive, despite its specificity. That is the case for procurements provided by intelligence services, or procurements for all types of intelligence activities, including counter-intelligence activities, as defined by Member States. It is also the case for other particularly sensitive purchases which require an extremely high level of confidentiality, such as, for example, certain purchases intended for border protection or combating terrorism or organised crime, purchases related to encryption or purchases intended specifically for covert activities or other equally sensitive activities carried out by police and security forces.
- (28) Member States often conduct cooperative programmes to develop new defence equipment together. Such programmes are particularly important because they help to develop new technologies and bear the high research and development costs of complex weapon systems. Some of these programmes are managed by international organisations, namely the *Organisation conjointe de coopération en matière d'armement* (OCCAR) and NATO (via specific agencies), or by agencies of the Union, such as the European Defence Agency, which then award contracts on behalf of Member States. This Directive should not apply to such contracts. For other such cooperative programmes, contracts are awarded by contracting authorities/entities of one Member State also on behalf of one or more other Member States. In these cases too, this Directive should not apply.
- (29) In the event that armed forces or security forces from Member States conduct operations beyond the borders of the Union, and when imposed by operational requirements, authorisation should be given to contracting authorities/entities deployed in the field of operations not to apply the rules of this Directive when they award contracts to economic operators located in the area of operations, including with respect to civilian purchases directly connected to the conduct of those operations.
- (30) Given the specificity of the defence and security sector, purchases of equipment as well as works and services by one government from another should be excluded from the scope of this Directive.
- (31) In the context of services, contracts for the acquisition or rental of immovable property or rights to such property have particular characteristics which make the application of procurement rules inappropriate.
- (32) Arbitration and conciliation services are usually provided by bodies or individuals designated or selected in a manner which cannot be governed by procurement rules.
- (33) Financial services are also entrusted to persons or bodies under conditions that are not compatible with the application of procurement rules.
- (34) Pursuant to Article 163 of the Treaty, the encouragement of research and technological development is a means of strengthening the scientific and technological basis of Community industry, and the opening-up of service contracts contributes to this end. This Directive should not cover the co-financing of research and development programmes. Research and development contracts other than those where the benefits accrue exclusively to the contracting authority/entity for its use in the conduct of its own affairs, on condition that the service provided is wholly remunerated by the contracting authority/entity, are therefore not covered by this Directive.
- (35) Employment and occupation are key elements in guaranteeing equal opportunities for all and contribute to integration in society. In this context, sheltered workshops and sheltered employment programmes contribute efficiently towards the integration or reintegration of people with disabilities in the labour market. However, such workshops might not be able to obtain contracts under normal conditions of competition. Consequently, it is appropriate to provide that Member States may reserve the right to participate in award procedures for contracts to such workshops or reserve performance of contracts to the context of sheltered employment programmes.

- (36) For the purpose of applying this Directive to the service contracts falling within its scope and for monitoring purposes, services should be subdivided into categories that correspond to particular headings of the CPV classification and brought together in two Annexes according to the regime to which they are subject. As regards services in Annex II, the relevant provisions of this Directive should be without prejudice to the application of Community rules specific to the services in question. However, in order to apply the provisions of this Directive instead of those of Directive 2004/17/EC or Directive 2004/18/EC, it has to be established that the relevant service contracts come within the scope of application of this Directive.
- (37) As regards service contracts, full application of this Directive should be limited, for a transitional period, to contracts where its provisions will permit the full potential for increased cross-border trade to be realised. It is necessary to monitor contracts for other services during this transitional period before a decision is taken on the full application of this Directive.
- (38) The technical specifications drawn up by contracting authorities/entities need to allow procurement to be opened up to competition. To this end, it must be possible to submit tenders which reflect the diversity of technical solutions. To do so, technical specifications should, on the one hand, be established on the basis of performance and functional requirements. On the other hand, where reference is made to the European standard or to international or national standards, including those specific to the field of defence, tenders based on other equivalent arrangements must be considered by the contracting authorities/entities. This equivalence can be assessed in particular with regard to interoperability and operational efficiency requirements. To demonstrate equivalence, tenderers should be permitted to use any form of evidence. Contracting authorities/entities must be able to provide a reason for any decision that equivalence does not exist in a given case. There are also international agreements on standardisation which aim to ensure the interoperability of the armed forces and which can have the force of law in Member States. Should one of these agreements apply, the contracting authorities/entities may demand that tenders comply with the standards described in that agreement. The technical specifications should be clearly indicated, so that all tenderers know what the requirements established by the contracting authority/entity cover.
- (39) The detailed technical specifications and additional information concerning contracts must, as is customary in the Member States, be given in the contract documents for each contract, or in an equivalent document.
- (40) Potential subcontractors should not be discriminated against on grounds of nationality. In the context of defence and security, it can be appropriate for contracting authorities/entities to oblige the successful tenderer to organise a transparent and non-discriminatory competition when awarding subcontracts to third parties. This obligation may apply to all subcontracts or only to specific subcontracts chosen by the contracting authority/entity.
- In addition, it seems appropriate to complement the tenderer's right to subcontract with the option offered to the Member State to allow or to require its contracting authorities/entities to ask that subcontracts representing at least a certain share of the value of the contract be awarded to third parties on the understanding that related undertakings are not to be regarded as third parties. When such a share is required, the successful tenderer should award subcontracts following a transparent and non-discriminatory competition, so that all interested undertakings have the same opportunity to benefit from the advantages of subcontracting. At the same time, the proper functioning of the successful tenderer's supply chain should not be jeopardised. Therefore, the percentage that can be subcontracted to third parties at the request of the contracting authority/entity should appropriately reflect the object and value of the contract.
- During a negotiated procedure or competitive dialogue with subcontracting requirements, the contracting authority/entity and the tenderers may discuss subcontracting requirements or recommendations with a view to ensuring that the contracting authority/entity is fully informed of the impact of different subcontracting options on, in particular, cost, quality or risk. In any event, subcontractors initially proposed by the successful tenderer should be free to participate in competitions organised for the award of subcontracts.
- In the context of defence and security markets, the Member States and the Commission should also encourage the development and dissemination of best practices between Member States and European industry with a view to promoting free movement and competitiveness in Union subcontracting markets, as well as the effective management of suppliers and SMEs, in order to achieve the best value for money. Member States should communicate to all successful tenderers the benefits of transparent and competitive tendering and supplier diversity for subcontracts, and develop and disseminate best practice on supply-chain management in the defence and security markets.
- (41) Contract performance conditions are compatible with this Directive provided that they are not directly or indirectly discriminatory and are indicated in the contract notice or the contract documents.
- (42) In particular, the conditions of performance may contain requirements by the contracting authorities/entities as regards security of information and security of supply. These requirements are particularly important given the sensitive nature of the equipment covered by this Directive, and concern the whole of the supply chain.

- (43) In order to ensure security of information, contracting authorities/entities may require in particular commitments from both contractors and subcontractors to protect classified information against unauthorised access, as well as sufficient information regarding their capacity to do so. In the absence of a Community regime on security of information, it is for the contracting authorities/entities or Member States to define these requirements in accordance with their national laws and regulations, and to determine whether they consider security clearances issued in accordance with the national law of another Member State as equivalent to those issued by their own competent authorities.
- (44) Security of supply can imply a great variety of requirements, including, for example, internal rules between subsidiaries and the parent company with respect to intellectual property rights, or the provision of critical service, maintenance and overhaul capacities to ensure support for purchased equipment throughout its life-cycle.
- (45) In any case, no performance conditions may pertain to requirements other than those relating to the performance of the contract itself.
- (46) The laws, regulations and collective agreements, at both national and Community levels, which are in force in the areas of employment conditions and safety at work apply during performance of a contract, provided that such rules, and their application, comply with Community law. In cross-border situations, where workers from one Member State provide services in another Member State for the purpose of performing a contract, Directive 96/71/EC of the European Parliament and of the Council of 16 December 1996 concerning the posting of workers in the framework of the provision of services<sup>(1)</sup> lays down the minimum conditions which must be observed by the host country in respect of such posted workers. If national law contains provisions to this effect, non-compliance with those obligations may be considered to be grave misconduct or an offence concerning the professional conduct of the economic operator concerned liable to lead to the exclusion of that economic operator from the procedure for the award of a contract.
- (47) The contracts covered by this Directive are characterised by specific requirements in terms of complexity, security of information or security of supply. Extensive negotiation is often required to satisfy these requirements when awarding contracts. As a result, the contracting authorities/entities may use the negotiated procedure with the publication of a contract notice, as well as the restricted procedure, for contracts covered by this Directive.
- (48) Contracting authorities/entities which carry out particularly complex projects may, without any fault on their part, find it objectively impossible to define the means of satisfying their needs or to assess what the market can offer in the way of technical solutions and/or financial or legal solutions. This situation may arise in particular in the case of projects requiring the integration or combination of several technological or operational capabilities, or projects involving complex and structured financing, the financial and legal make-up of which cannot be defined in advance. In this case, use of the restricted procedure and the negotiated procedure with the publication of a contract notice would not be feasible, as it would not be possible to define the contract with enough precision to allow candidates to draw up their offers. It is therefore necessary to provide for a flexible procedure ensuring competition between economic operators and allowing the contracting authorities/entities to discuss all aspects of the contract with each candidate. However, this procedure must not be used in such a way as to restrict or distort competition, particularly by altering any fundamental aspect of the tender, by imposing substantial new requirements on the successful tenderer or by involving any tenderer other than the one selected as the most economically advantageous.
- (49) Before launching a procedure for the award of a contract, contracting authorities/entities may, using a technical dialogue, seek or accept advice which may be used in the preparation of specifications, provided, however, that such advice does not have the effect of precluding competition.
- (50) Use of the negotiated procedure with publication of a contract notice could be impossible or entirely inappropriate in certain exceptional circumstances. The contracting authorities/entities should thus, in certain very specific cases and circumstances, be able to use the negotiated procedure without publication of a contract notice.
- (51) Certain circumstances should be partly the same as those provided for in Directive 2004/18/EC. In this respect, consideration should be given in particular to the fact that defence and security equipment is often technically complex. Consequently, incompatibility or disproportionate technical difficulties in operation and maintenance justifying the use of the negotiated procedure without publication of a contract notice in the case of supply contracts for additional deliveries should be assessed in the light of this complexity and the associated requirements for interoperability and standardisation of equipment. This is the case, for example, for the integration of new components into existing systems or for the modernisation of such systems.

<sup>(1)</sup> OJ L 18, 21.1.1997, p. 1.

- (52) It may be the case for certain purchases within the scope of this Directive that only one economic operator is able to execute the contract because it holds exclusive rights, or for technical reasons. In such cases, the contracting authority/entity should be allowed to award contracts or framework agreements directly to that economic operator. However, technical reasons for only one economic operator being able to execute a contract should be rigorously defined and justified on a case-by-case basis. They could include, for instance, strict technical impracticability for a candidate other than the chosen economic operator to achieve the required goals, or the necessity to use specific know-how, tools or means which only one operator has at its disposal. This may be the case, for example, for the modification or retrofitting of particularly complex equipment. Technical reasons may also derive from specific interoperability or safety requirements which must be fulfilled in order to ensure the functioning of the armed forces or security forces.
- (53) The specific nature of the contracts subject to this Directive also demonstrates the need to provide for new circumstances which may arise in the fields covered by it.
- (54) The armed forces of Member States may, for example, be called on to intervene in crisis situations abroad, for instance as part of peace-keeping operations. At the launch, or during the course, of such an intervention, the security of Member States and their armed forces may necessitate the award of certain contracts at a speed which is incompatible with the usual deadlines imposed by the award procedures laid down by this Directive. Such emergencies could also arise for the security forces, for example in the case of a terrorist attack on the territory of the Union.
- (55) Stimulating research and development is a key way of strengthening the European Defence Technological and Industrial Base, and the opening-up of procurement helps to achieve this objective. The importance of research and development in this specific field justifies maximum flexibility in the award of contracts for research supplies and services. At the same time, however, this flexibility should not preclude fair competition in the later phases of the life cycle of a product. Research and development contracts should therefore cover activities only up to the stage where the maturity of new technologies can be reasonably assessed and de-risked. Research and development contracts should not be used beyond that stage as means of avoiding the provisions of this Directive, including by pre-determining the choice of tenderer for the later phases.
- On the other hand, the contracting authority/entity should not have to organise a separate tender for the later phases if the contract which covers the research activities already includes an option for those phases and was awarded through a restricted procedure or a negotiated procedure with the publication of a contract notice, or, where applicable, a competitive dialogue.
- (56) In order to ensure transparency, provision should be made for rules on publication by the contracting authorities/entities of appropriate information prior to, and at the end of, the award procedure. In addition, further specific information should be provided to candidates and tenderers regarding the results of that procedure. However, contracting authorities/entities should be allowed to withhold some of the information so required when and insofar as its release would impede law enforcement or otherwise be contrary to the public interest, harm the legitimate commercial interests of economic operators or might prejudice fair competition between them. In the light of the nature and the features of the works, supplies and services covered by this Directive, grounds of public interest relating to compliance with national mandatory provisions falling within the scope of national public policy, notably with regard to defence and security, are of particular relevance in this regard.
- (57) In view of new developments in information and communications technology, and the simplifications these can bring, electronic means should be put on a par with traditional means of communication and information exchange. As far as possible, the means and technology chosen should be compatible with the technologies used in other Member States.
- (58) To ensure the development of effective competition in the field of procurement covered by this Directive, it is necessary that contract notices drawn up by the contracting authorities/entities of Member States be advertised throughout the Community. The information contained in these notices must enable economic operators in the Community to determine whether the proposed contracts are of interest to them. For this purpose, they must be given adequate information as regards the subject-matter of the contract and the conditions attached thereto. Improved visibility should therefore be ensured for public notices by means of appropriate instruments, such as standard contract notice forms and the CPV, which is the reference nomenclature for contracts.
- (59) Directive 1999/93/EC of the European Parliament and of the Council of 13 December 1999 on a Community framework for electronic signatures<sup>(1)</sup> and Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the internal market (Directive on electronic commerce)<sup>(2)</sup> should, in the context of this Directive, apply to the transmission of information by electronic means. Procurement

On the other hand, the contracting authority/entity should not have to organise a separate tender for the later phases if the contract which covers the research activities already includes an option for those phases and was awarded

<sup>(1)</sup> OJ L 13, 19.1.2000, p. 12.

<sup>(2)</sup> OJ L 178, 17.7.2000, p. 1.

- procedures require a level of security and confidentiality higher than that required by those Directives. Accordingly, devices for the electronic receipt of offers and requests to participate should comply with specific additional requirements. To this end, the use of electronic signatures, in particular advanced electronic signatures, should be encouraged to as great an extent as possible. Moreover, the existence of voluntary accreditation schemes could constitute a favourable framework for enhancing the level of certification service provision for these devices.
- (60) The use of electronic means leads to savings in time. As a result, provision should be made for reducing the minimum time-limits for receipt of offers and requests to participate where electronic means are used, subject however to the condition that they are compatible with the specific modes of transmission envisaged at Community level.
- (61) Verification of the suitability of candidates and the selection thereof should be carried out in transparent conditions. For this purpose, non-discriminatory criteria should be indicated which the contracting authorities/entities may use when selecting competitors and the means which economic operators may use to prove they have satisfied those criteria. In the same spirit of transparency, the contracting authority/entity should be required, as soon as a contract is put out to competition, to indicate the selection criteria it will use and the level of specific competence it may, where appropriate, demand of economic operators before admitting them to the procurement procedure.
- (62) A contracting authority/entity may limit the number of candidates in the restricted and negotiated procedures with publication of a contract notice and in a competitive dialogue. Any reduction in the number of candidates should be performed on the basis of objective criteria indicated in the contract notice. For criteria relating to the personal situation of economic operators, a general reference in the contract notice to the situations set out in this Directive may suffice.
- (63) In the competitive dialogue and negotiated procedures with publication of a contract notice, in view of the flexibility which may be required and the high level of costs associated with such methods of procurement, contracting authorities/entities should be entitled to make provision for the procedure to be conducted in successive stages in order gradually to reduce, on the basis of previously indicated contract award criteria, the number of tenders which they will go on to discuss or negotiate. This reduction should, insofar as the number of appropriate solutions or candidates allows it, ensure that there is genuine competition.
- (64) The relevant Community rules on the mutual recognition of diplomas, certificates or other evidence of formal qualifications apply when evidence of a particular qualification is required for participation in a procurement procedure.
- (65) The award of contracts to economic operators which have participated in a criminal organisation or which have been found guilty of corruption or fraud to the detriment of the financial interests of the European Communities, money laundering, the financing of terrorism or terrorist and terrorism-related offences, should be avoided. Where appropriate, the contracting authorities/entities should ask candidates or tenderers to supply relevant documents and, where they have doubts concerning the personal situation of a candidate or tenderer, may seek the cooperation of the competent authorities of the Member State concerned. Such economic operators should be excluded as soon as the contracting authority/entity has knowledge of a judgment concerning such offences rendered in accordance with national law that has the force of *res judicata*. If national law contains provisions to this effect, non-compliance with procurement legislation on unlawful agreements which has been the subject of a final judgment or a decision having equivalent effect may be considered an offence concerning the professional conduct of the economic operator concerned or grave misconduct. It should also be possible to exclude economic operators if the contracting authority/entity has information, where applicable provided by protected sources, establishing that they are not sufficiently reliable so as to exclude risks to the security of the Member State. Such risks could derive from certain features of the products supplied by the candidate, or from the shareholding structure of the candidate.
- (66) Non-compliance with national provisions implementing Council Directive 2000/78/EC of 27 November 2000 establishing a general framework for equal treatment in employment and occupation <sup>(1)</sup> and Council Directive 76/207/EEC of 9 February 1976 on the implementation of the principle of equal treatment for men and women as regards access to employment, vocational training and promotion, and working conditions <sup>(2)</sup> which has been the subject of a final judgment or a decision having equivalent effect may be considered an offence concerning the professional conduct of the economic operator concerned or grave misconduct.
- (67) Given the sensitive nature of the defence and security sectors, the reliability of economic operators to which contracts are awarded is vital. This reliability depends, in particular, on their ability to respond to requirements imposed by the contracting authority/entity with respect to security of supply and security of information. In addition, nothing in this Directive should prevent a contracting authority/entity from excluding an economic operator at any point in the process for the award of a contract if the contracting authority/entity has information that to award all or any part of the contract to that economic operator could cause a risk to the essential security interests of that Member State.

<sup>(1)</sup> OJ L 303, 2.12.2000, p. 16.

<sup>(2)</sup> OJ L 39, 14.2.1976, p. 40.

- (68) In the absence of a Community regime as regards the security of information, it is for the contracting authorities/entities or Member States to define the level of technical capacity which is required in this regard for participation in an award procedure and to assess whether candidates have achieved the required security level. In many cases, Member States have bilateral security agreements with rules on the mutual recognition of national security clearances. Even where such agreements exist, the capacities of economic operators from other Member States as regards security of information can be verified, and such verification should be carried out in accordance with the principles of non-discrimination, equal treatment and proportionality.
- (69) Contracts should be awarded on the basis of objective criteria which ensure compliance with the principles of transparency, non-discrimination and equal treatment and which guarantee that tenders are assessed in a transparent and objective manner under conditions of effective competition. As a result, it is appropriate to allow the application of two award criteria only: 'the lowest price' and 'the most economically advantageous tender'.
- (70) To ensure compliance with the principle of equal treatment in the award of contracts, it is appropriate to lay down an obligation, which has been established by case-law, to ensure the necessary transparency to enable all tenderers to be reasonably informed of the criteria and arrangements which will be applied to identify the most economically advantageous tender. It is therefore the responsibility of contracting authorities/entities to indicate the criteria for the award of the contract and the relative weighting given to each of those criteria, in sufficient time for tenderers to be aware of them when preparing their tenders. Contracting authorities/entities may derogate from indicating the weighting of the criteria for the award in duly justified cases for which they must be able to give reasons where the weighting cannot be established in advance, in particular on account of the complexity of the contract. In such cases, they must indicate the descending order of importance of the criteria.
- (71) Where the contracting authorities/entities choose to award a contract to the most economically advantageous tender, they shall assess the tenders in order to determine which one offers the best value for money. In order to do this, they shall determine the economic and quality criteria which, taken as a whole, must make it possible to determine the most economically advantageous tender for the contracting authority/entity. The determination of these criteria depends on the object of the contract, since they must allow the level of performance offered by each tender to be assessed in the light of the object of the contract, as defined in the technical specifications, and the value for money of each tender to be measured.
- (72) Compliance with transparency and competition obligations should be ensured by an efficient review system, based on the system which Council Directives 89/665/EEC <sup>(1)</sup> and 92/13/EEC <sup>(2)</sup>, as amended by Directive 2007/66/EC of the European Parliament and of the Council <sup>(3)</sup>, provide for contracts covered by Directives 2004/17/EC and 2004/18/EC. In particular, the possibility of challenging the award procedure before the contract is signed should be provided for, as should the guarantees necessary for the efficiency of the review, such as the standstill period. The possibility of challenging illegal direct awards or contracts concluded in violation of this Directive should also be provided for.
- (73) However, review procedures should take into account the protection of defence and security interests as regards the procedures of review bodies, the choice of interim measures or penalties for infringements of obligations relating to transparency and competition. In particular, Member States should be able to provide that the review body independent of the contracting authority/entity, may not consider a contract ineffective, even though it has been awarded illegally on the grounds referred to in this Directive, where it finds, after having examined all relevant aspects, that the exceptional circumstances of the case concerned require certain overriding reasons relating to a general interest to be respected. In the light of the nature and features of the works, supplies and services covered by this Directive, such overriding reasons should be first and foremost related to the general interests of defence and security of Member States. This can be the case, for example, when the ineffectiveness of a contract would seriously endanger not only the fulfilment of the specific project aimed at by it, but the very existence of a wider defence and/or security programme of which the project is a part.
- (74) Certain technical conditions, and in particular those concerning notices and statistical reports, as well as the nomenclature used and the conditions of reference to that nomenclature, need to be adopted and amended in the light of changing technical requirements. It is therefore appropriate to put in place a flexible and rapid adoption procedure for this purpose.

<sup>(1)</sup> Council Directive 89/665/EEC of 21 December 1989 on the coordination of the laws, regulations and administrative provisions relating to the application of review procedures to the award of public supply and public works contracts (OJ L 395, 30.12.1989, p. 33).

<sup>(2)</sup> Council Directive 92/13/EEC of 25 February 1992 coordinating the laws, regulations and administrative provisions relating to the application of Community rules on the procurement procedures of entities operating in the water, energy, transport and telecommunications sectors (OJ L 76, 23.3.1992, p. 14).

<sup>(3)</sup> Directive 2007/66/EC of the European Parliament and of the Council of 11 December 2007 amending Council Directives 89/665/EEC and 92/13/EEC with regard to improving the effectiveness of review procedures concerning the award of public contracts (OJ L 335, 20.12.2007, p. 31).

- (75) The measures necessary for the implementation of this Directive should be adopted in accordance with Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission <sup>(1)</sup>.
- (76) In particular, the Commission should be empowered to revise the threshold amounts for contracts by aligning them to the thresholds laid down in Directive 2004/17/EC and to amend certain reference numbers in the CPV nomenclature and the procedures for reference in notices to certain headings in the CPV, as well as the technical details and characteristics of devices for electronic receipt.
- Since those measures are of general scope and are designed to amend non-essential elements of this Directive, they must be adopted in accordance with the regulatory procedure with scrutiny provided for in Article 5a of Decision 1999/468/EC.
- (77) When, on imperative grounds of urgency, the normal time-limits for the regulatory procedure with scrutiny cannot be complied with, the Commission should be able to apply the urgency procedure provided for in Article 5a(6) of Decision 1999/468/EC for the adoption of these measures.
- (78) In accordance with point 34 of the Interinstitutional agreement on better law-making <sup>(2)</sup>, Member States are encouraged to draw up, for themselves and in the interests of the Community, their own tables illustrating, as far as possible, the correlation between this Directive and the transposition measures, and to make them public.
- (79) The Commission should carry out a periodic assessment to examine whether the defence equipment market is functioning in an open, transparent and competitive way, including the impact of this Directive on the market, for example on involvement of SMEs,
- HAVE ADOPTED THIS DIRECTIVE:

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<sup>(1)</sup> OJ L 184, 17.7.1999, p. 23.

<sup>(2)</sup> OJ C 321, 31.12.2003, p. 1.

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## TITLE I

## DEFINITIONS, SCOPE AND GENERAL PRINCIPLES

## Article 1

## Definitions

For the purposes of this Directive, the following definitions shall apply:

1. 'Common Procurement Vocabulary (CPV)' means the reference nomenclature applicable to contracts awarded by contracting authorities/entities, as adopted by Regulation (EC) No 2195/2002;
2. 'Contracts' means contracts for pecuniary interest concluded in writing as referred to in Article 1(2)(a) of Directive 2004/17/EC and Article 1(2)(a) of Directive 2004/18/EC;
3. 'Works contracts' means contracts having as their object either the execution, or both the design and execution, of works related to one of the activities mentioned in Division 45 of the CPV, or a work, or the realisation, by whatever means, of a work corresponding to the requirements specified by the contracting authority/entity. A 'work' means the outcome of building or civil engineering works taken as a whole that is sufficient of itself to fulfil an economic or technical function;
4. 'Supply contracts' means contracts other than works contracts having as their object the purchase, lease, rental or hire-purchase, with or without the option to buy, of products.  
  
A contract having as its object the supply of products and which also covers, as an incidental matter, siting and installation operations shall be considered to be a 'supply contract';
5. 'Service contracts' means contracts other than works or supply contracts having as their object the provision of services.  
  
A contract having as its object both products and services shall be considered to be a 'service contract' if the value of the services in question exceeds that of the products covered by the contract.  
  
A contract having as its object services and including activities mentioned in Division 45 of the CPV that are only incidental to the principal object of the contract shall be considered to be a service contract;
6. 'Military equipment' means equipment specifically designed or adapted for military purposes and intended for use as an arm, munitions or war material;
7. 'Sensitive equipment', 'sensitive works' and 'sensitive services' means equipment, works and services for security purposes, involving, requiring and/or containing classified information;
8. 'Classified information' means any information or material, regardless of the form, nature or mode of transmission thereof, to which a certain level of security classification or protection has been attributed, and which, in the interests of national security and in accordance with the laws, regulations or administrative provisions in force in the Member State concerned, requires protection against any misappropriation, destruction, removal, disclosure, loss or access by any unauthorised individual, or any other type of compromise;
9. 'Government' means the State, regional or local government of a Member State or third country;
10. 'Crisis' means any situation in a Member State or third country in which a harmful event has occurred which clearly exceeds the dimensions of harmful events in everyday life and which substantially endangers or restricts the life and health of people, or has a substantial impact on property values, or requires measures in order to supply the population with necessities; a crisis shall also be deemed to have arisen if the occurrence of such a harmful event is deemed to be impending; armed conflicts and wars shall be regarded as crises for the purposes of this Directive;
11. 'Framework agreement' means an agreement between one or more contracting authorities/entities and one or more economic operators, the purpose of which is to establish the terms governing contracts to be awarded during a given period, in particular with regard to price and, where appropriate, the quantity envisaged;
12. 'Electronic auction' means a repetitive process involving an electronic device for the presentation of new prices, revised downwards, and/or new values concerning certain elements of tenders, which occurs after an initial full evaluation of the tenders, enabling them to be ranked using automatic evaluation methods.  
  
Consequently, certain service contracts and certain works contracts having as their subject-matter intellectual performances, such as the design of works, may not be the object of electronic auctions;
13. 'Contractor', 'supplier' and 'service provider' means any natural or legal person or public entity or consortium of such persons and/or bodies which offers on the market to execute works, supply products and provide services, respectively;
14. 'Economic operator' means a contractor, supplier or service provider. It is used merely in the interests of simplification;
15. 'Candidate' means an economic operator which has sought an invitation to take part in a restricted or negotiated procedure or a competitive dialogue;

16. 'Tenderer' means an economic operator which has submitted a tender under a restricted or negotiated procedure or a competitive dialogue;
17. 'Contracting authorities/entities' means contracting authorities as referred to in Article 1(9) of Directive 2004/18/EC and contracting entities as referred to in Article 2 of Directive 2004/17/EC;
18. 'Central purchasing body' means a contracting authority/entity as referred to in Article 1(9) of Directive 2004/18/EC and Article 2(1)(a) of Directive 2004/17/EC, or a European public body, which:
- acquires supplies and/or services intended for contracting authorities/entities, or,
  - awards contracts or concludes framework agreements for works, supplies or services intended for contracting authorities/entities,
19. 'Restricted procedures' means procedures in which any economic operator may ask to participate and whereby only those economic operators invited by the contracting authority/entity may submit a tender;
20. 'Negotiated procedures' means procedures in which the contracting authority/entity invites the economic operators of its choice and negotiates the terms of the contract with one or more of these;
21. 'Competitive dialogue' means a procedure in which any economic operator may ask to participate and whereby the contracting authority/entity conducts a dialogue with the candidates admitted to that procedure with the aim of developing one or more suitable alternatives capable of meeting its requirements, and on the basis of which the candidates chosen are invited to tender.
- For the purposes of recourse to the procedure referred to in the first subparagraph, a contract is considered to be 'particularly complex' where the contracting authority/entity is not objectively able:
- to define the technical means in accordance with Article 18(3)(b), (c) or (d), capable of satisfying its needs or objectives, and/or,
  - to specify the legal and/or financial make-up of a project,
22. 'Subcontract' means a contract for pecuniary interest concluded in writing between a successful tenderer for a contract and one or more economic operators for the purposes of carrying out that contract and having as its object works, supplies of products or the performance of services;
23. 'Related undertaking' means any undertaking over which the successful tenderer can exert a dominant influence, whether directly or indirectly, or any undertaking which can exert a dominant influence on the successful tenderer or which, as the successful tenderer, is subject to the dominant influence of another undertaking as a result of ownership, financial participation or the rules which govern it. A dominant influence on the part of the undertaking is presumed when, directly or indirectly in relation to another undertaking, it:
- holds a majority of the undertaking's subscribed capital,
  - controls a majority of the votes attached to the shares issued by the undertaking, or,
  - is entitled to appoint more than half of the undertaking's administrative, management or supervisory bodies,
24. 'Written' or 'in writing' means any expression consisting of words or figures which can be read, reproduced and subsequently communicated. It may include information which is transmitted and stored by electronic means;
25. 'Electronic means' means any means using electronic equipment for the processing (including digital compression) and storage of data which is transmitted, conveyed and received by wire, by radio, by optical means or by other electromagnetic means;
26. 'Life cycle' means all the possible successive stages of a product, i.e. research and development, industrial development, production, repair, modernisation, modification, maintenance, logistics, training, testing, withdrawal and disposal;
27. 'Research and development' means all activities comprising fundamental research, applied research and experimental development, where the latter may include the realisation of technological demonstrators, i.e., devices that demonstrate the performance of a new concept or a new technology in a relevant or representative environment;
28. 'Civil purchases' means contracts not subject to Article 2 covering the procurement of non-military products, works or services for logistical purposes and concluded in accordance with the conditions specified in Article 17.

## Article 2

### Scope

Subject to Articles 30, 45, 46, 55 and 296 of the Treaty, this Directive shall apply to contracts awarded in the fields of defence and security for:

- (a) the supply of military equipment, including any parts, components and/or subassemblies thereof;
- (b) the supply of sensitive equipment, including any parts, components and/or subassemblies thereof;

- (c) works, supplies and services directly related to the equipment referred to in points (a) and (b) for any and all elements of its life cycle;
- (d) works and services for specifically military purposes or sensitive works and sensitive services.

#### Article 3

##### **Mixed contracts**

1. A contract having as its object works, supplies or services falling within the scope of this Directive and partly within the scope of Directive 2004/17/EC or Directive 2004/18/EC shall be awarded in accordance with this Directive, provided that the award of a single contract is justified for objective reasons.

2. The award of a contract having as its object works, supplies or services falling partly within the scope of this Directive, with the other part not being subject to either this Directive, or to Directive 2004/17/EC or Directive 2004/18/EC, shall not be subject to this Directive, provided that the award of a single contract is justified for objective reasons.

3. The decision to award a single contract may not, however, be taken for the purpose of excluding contracts from the application of this Directive or of Directive 2004/17/EC or Directive 2004/18/EC.

#### Article 4

##### **Procurement principles**

Contracting authorities/entities shall treat economic operators equally and in a non-discriminatory manner and shall act in a transparent way.

#### TITLE II

#### **RULES ON CONTRACTS**

##### CHAPTER I

##### **General provisions**

#### Article 5

##### **Economic operators**

1. Candidates or tenderers which, under the law of the Member State in which they are established, are entitled to provide the relevant service, shall not be rejected solely on the ground that, under the law of the Member State in which the contract is awarded, they would be required to be either natural or legal persons.

However, in the case of service and works contracts as well as supply contracts covering in addition services and/or siting and installation operations, legal persons may be required to indicate

in the tender or the request to participate the names and relevant professional qualifications of the staff to be responsible for the performance of the contract in question.

2. Groups of economic operators may submit tenders or put themselves forward as candidates. In order to submit a tender or a request to participate, these groups may not be required by the contracting authorities/entities to assume a specific legal form; however, the group selected may be required to do so when it has been awarded the contract, to the extent that this change is necessary for the satisfactory performance of the contract.

#### Article 6

##### **Confidentiality obligations of contracting authorities/entities**

Without prejudice to the provisions of this Directive, in particular those concerning the obligations relating to the advertising of awarded contracts and to the information to candidates and tenderers as set out in Article 30(3) and Article 35, and in accordance with the national law to which the contracting authority/entity is subject, in particular legislation regarding access to information, the contracting authority/entity, subject to contractually acquired rights, shall not disclose information forwarded to it by economic operators which such operators have designated as confidential; such information includes, in particular, technical or trade secrets and the confidential aspects of tenders.

#### Article 7

##### **Protection of classified information**

Contracting authorities/entities may impose on economic operators requirements aimed at protecting the classified information they communicate throughout the tendering and contracting procedure. They may also request these economic operators to ensure compliance with such requirements by their subcontractors.

#### CHAPTER II

##### **Thresholds, central purchasing bodies and exclusion provisions**

##### Section 1

##### **Thresholds**

#### Article 8

##### **Threshold amounts for contracts**

This Directive shall apply to contracts which have a value excluding value-added tax (VAT) estimated to be no less than the following thresholds:

- (a) EUR 412 000 for supply and service contracts;
- (b) EUR 5 150 000 for works contracts.

## Article 9

**Methods for calculating the estimated value of contracts and of framework agreements**

1. The calculation of the estimated value of a contract shall be based on the total amount payable, net of VAT, as estimated by the contracting authority/entity. This calculation shall take account of the estimated total amount, including any form of option and any renewals of the contract.

Where the contracting authority/entity provides for prizes or payments to candidates or tenderers, it shall take them into account when calculating the estimated value of the contract.

2. This estimate must be valid at the moment at which the contract notice is sent, as provided for in Article 32(2), or, in cases where such notice is not required, at the moment at which the contracting authority/entity commences the contract award procedure.

3. No works project or proposed purchase of a certain quantity of supplies and/or services may be partitioned to create essentially identical separate partial contracts or otherwise subdivided to prevent its coming within the scope of this Directive.

4. With regard to works contracts, the calculation of the estimated value shall take account of both the cost of the works and the total estimated value of the supplies necessary for executing the works and placed at the contractor's disposal by the contracting authorities/entities.

5. (a) Where a proposed work or purchase of services may result in contracts being awarded at the same time in the form of separate lots, account shall be taken of the total estimated value of all such lots.

Where the aggregate value of the lots is equal to or exceeds the threshold laid down in Article 8, this Directive shall apply to the awarding of each lot.

However, the contracting authorities/entities may waive such application in respect of lots the estimated value of which, net of VAT, is less than EUR 80 000 for services or EUR 1 000 000 for works, provided that the aggregate value of those lots does not exceed 20 % of the aggregate value of the lots as a whole;

(b) Where a proposal for the acquisition of similar supplies may result in contracts being awarded at the same time in the form of separate lots, account shall be taken of the total estimated value of all such lots when applying Article 8(a) and (b).

Where the aggregate value of the lots is equal to or exceeds the threshold laid down in Article 8, this Directive shall apply to the awarding of each lot.

However, the contracting authorities/entities may waive such application in respect of lots the estimated value of which, net of VAT, is less than EUR 80 000, provided that the aggregate cost of those lots does not exceed 20 % of the aggregate value of the lots as a whole.

6. With regard to supply contracts relating to the leasing, hire, rental or hire-purchase of products, the value to be taken as a basis for calculating the estimated contract value shall be as follows:

- (a) in the case of fixed-term contracts, where that term is less than or equal to 12 months, the total estimated value for the term of the contract or, where the term of the contract is greater than 12 months, the total value, including the estimated residual value;
- (b) in the case of contracts without a fixed term or the term of which cannot be defined, the monthly value multiplied by 48.

7. In the case of supply or service contracts which are regular in nature or which are intended to be renewed within a given period, the calculation of the estimated contract value shall be based on the following:

- (a) either the total actual value of the successive contracts of the same type awarded during the preceding 12 months or financial year, adjusted, if possible, to take account of the changes in quantity or value which could occur in the course of the 12 months following the initial contract; or
- (b) the total estimated value of the successive contracts awarded during the 12 months following the first delivery, or during the financial year if that is longer than 12 months.

The choice of method used to calculate the estimated value of a contract may not be made with the intention of excluding it from the scope of this Directive.

8. With regard to service contracts, the value to be taken as a basis for calculating the estimated contract value shall, where appropriate, be the following:

- (a) for the following services:
  - (i) insurance services: the premium payable and other forms of remuneration;
  - (ii) design contracts: fees, commission payable and other forms of remuneration;
- (b) for service contracts which do not indicate a total price:
  - (i) in the case of fixed-term contracts, where that term is less than or equal to 48 months: the total value for their full term;

- (ii) in the case of contracts without a fixed term or with a term greater than 48 months: the monthly value multiplied by 48.

9. With regard to framework agreements, the estimated value to be taken into consideration shall be the maximum estimated value, net of VAT, of all the contracts envisaged for the total term of the agreement.

## Section 2

### Central purchasing bodies

#### Article 10

#### Contracts and framework agreements awarded by central purchasing bodies

1. Member States may stipulate that contracting authorities/entities may purchase works, supplies and/or services from or through a central purchasing body.

2. Contracting authorities/entities which purchase works, supplies and/or services from or through a central purchasing body in the cases set out in Article 1(18) shall be deemed to have complied with this Directive insofar as:

- the central purchasing body has complied with it, or,
- when the central purchasing body is not a contracting authority/entity, the contract award rules applied by it are compliant with all the provisions of this Directive and the contracts awarded can be subject to efficient remedies comparable to those provided for in Title IV.

## Section 3

### Excluded contracts

#### Article 11

#### Use of exclusions

None of the rules, procedures, programmes, agreements, arrangements or contracts referred to in this section may be used for the purpose of circumventing the provisions of this Directive.

#### Article 12

#### Contracts awarded pursuant to international rules

This Directive shall not apply to contracts governed by:

- (a) specific procedural rules pursuant to an international agreement or arrangement concluded between one or more Member States and one or more third countries;

- (b) specific procedural rules pursuant to a concluded international agreement or arrangement relating to the stationing of troops and concerning the undertakings of a Member State or a third country;

- (c) specific procedural rules of an international organisation purchasing for its purposes, or to contracts which must be awarded by a Member State in accordance with those rules.

#### Article 13

#### Specific exclusions

This Directive shall not apply to the following:

- (a) contracts for which the application of the rules of this Directive would oblige a Member State to supply information the disclosure of which it considers contrary to the essential interests of its security;

- (b) contracts for the purposes of intelligence activities;

- (c) contracts awarded in the framework of a cooperative programme based on research and development, conducted jointly by at least two Member States for the development of a new product and, where applicable, the later phases of all or part of the life-cycle of this product. Upon the conclusion of such a cooperative programme between Member States only, Member States shall indicate to the Commission the share of research and development expenditure relative to the overall cost of the programme, the cost-sharing agreement as well as the intended share of purchases per Member State, if any;

- (d) contracts awarded in a third country, including for civil purchases, carried out when forces are deployed outside the territory of the Union where operational needs require them to be concluded with economic operators located in the area of operations;

- (e) service contracts for the acquisition or rental, under whatever financial arrangements, of land, existing buildings or other immovable property, or concerning rights in respect thereof;

- (f) contracts awarded by a government to another government relating to:

- (i) the supply of military equipment or sensitive equipment,

- (ii) works and services directly linked to such equipment, or

- (iii) works and services specifically for military purposes, or sensitive works and sensitive services;

- (g) arbitration and conciliation services;
- (h) financial services, with the exception of insurance services;
- (i) employment contracts;
- (j) research and development services other than those where the benefits accrue exclusively to the contracting authority/entity for its use in the conduct of its own affairs, on condition that the service provided is wholly remunerated by the contracting authority/entity.

#### Section 4

### Special arrangements

#### Article 14

#### Reserved contracts

Member States may reserve the right to participate in contract award procedures to sheltered workshops or provide for such contracts to be performed in the context of sheltered employment programmes where most of the employees concerned are handicapped persons who, by reason of the nature or the seriousness of their disabilities, cannot carry on occupations under normal conditions.

The contract notice shall make reference to this provision.

#### CHAPTER III

### Arrangements for service contracts

#### Article 15

#### Service contracts listed in Annex I

Contracts which have as their object services covered by Article 2 that are listed in Annex I shall be awarded in accordance with Articles 18 to 54.

#### Article 16

#### Service contracts listed in Annex II

Contracts which have as their object services covered by Article 2 that are listed in Annex II shall be subject solely to Article 18 and Article 30(3).

#### Article 17

#### Mixed contracts including services listed in Annexes I and II

Contracts which have as their object services covered by Article 2 that are listed both in Annex I and in Annex II shall be awarded in accordance with Articles 18 to 54 where the value of the services listed in Annex I is greater than the value of the services listed in Annex II. In other cases, contracts shall be awarded in accordance with Article 18 and Article 30(3).

#### CHAPTER IV

### Specific rules governing contract documentation

#### Article 18

#### Technical specifications

1. The technical specifications as defined in point 1 of Annex III shall be set out in the contract documentation (contract notices, contract documents, descriptive documents or supporting documents).

2. Technical specifications shall afford equal access for tenderers and shall not have the effect of creating unjustified obstacles to the opening up of procurement to competition.

3. Without prejudice to either compulsory national technical rules (including those related to product safety) or the technical requirements to be met by the Member State under international standardisation agreements in order to guarantee the interoperability required by those agreements, and provided they are compatible with Community law, technical specifications shall be drawn up:

(a) either by reference to technical specifications defined in Annex III and, in order of preference, to:

- national civil standards transposing European standards,
- European technical approvals,
- common civil technical specifications,
- national civil standards transposing international standards,
- other international civil standards,
- other technical reference systems established by the European standardisation bodies, or, where these do not exist, other national civil standards, national technical approvals or national technical specifications relating to the design, calculation and execution of the works and use of the products,
- civil technical specifications stemming from industry and widely recognised by it, or,
- the national 'defence standards' defined in point 3 of Annex III and defence materiel specifications similar to those standards,

Every reference shall be followed by the expression 'or equivalent';

- (b) or in terms of performance or functional requirements; the latter may include environmental characteristics.

However, such parameters must be sufficiently precise to allow tenderers to determine the subject-matter of the contract and to allow contracting authorities/entities to award the contract;

- (c) or in terms of performance or functional requirements as mentioned in point (b), with reference to the specifications mentioned in point (a) as a means of presuming conformity with such performance or functional requirements;

- (d) or by referring to the specifications mentioned in point (a) for certain characteristics, and by referring to the performance or functional requirements mentioned in point (b) for other characteristics.

4. Where a contracting authority/entity makes use of the option of referring to the specifications mentioned in paragraph 3(a), it can not reject a tender on the grounds that the products and services tendered for do not comply with the specifications to which it has referred, once the tenderer proves in its tender to the satisfaction of the contracting authority/entity, by whatever appropriate means, that the solutions which it proposes satisfy in an equivalent manner the requirements defined by the technical specifications.

An appropriate means might be constituted by a technical dossier from the manufacturer or a test report from a recognised body.

5. Where a contracting authority/entity uses the option laid down in paragraph 3 to prescribe performance-related or functional requirements, it may not reject a tender for works, products or services which comply with a national standard transposing a European standard, with a European technical approval, a common technical specification, an international standard or a technical reference system established by a European standardisation body, if these specifications address the performance or functional requirements which it has laid down.

In its tender, the tenderer must prove to the satisfaction of the contracting authority/entity and by any appropriate means that the work, product or service in compliance with the standard meets the performance or functional requirements of the contracting authority/entity.

An appropriate means might be constituted by a technical dossier from the manufacturer or a test report from a recognised body.

6. Where contracting authorities/entities lay down environmental characteristics in terms of performance or functional requirements as referred to in paragraph 3(b), they may use the detailed specifications, or, if necessary, parts thereof, as defined by European or (multi-) national eco-labels, or by any other eco-label, provided that:

- those specifications are appropriate as a means of defining the characteristics of the supplies or services that are the object of the contract,
- the requirements for the label are drawn up on the basis of scientific information,
- the eco-labels are adopted using a procedure in which all stakeholders, such as government bodies, consumers, manufacturers, distributors and environmental organisations, can participate, and,
- they are accessible to all interested parties,

Contracting authorities/entities may indicate that the products and services bearing the eco-label are presumed to comply with the technical specifications laid down in the contract documents; they must accept any other appropriate means of proof, such as a technical dossier from the manufacturer or a test report from a recognised body.

7. 'Recognised bodies', within the meaning of this Article, are test and calibration laboratories, and certification and inspection bodies which comply with applicable European standards.

Contracting authorities/entities shall accept certificates from recognised bodies established in other Member States.

8. Unless justified by the subject-matter of the contract, technical specifications shall not refer to a specific make or source, or a particular process, or to trade marks, patents, types or a specific origin or production with the effect of favouring or eliminating certain undertakings or certain products. Such reference shall be permitted on an exceptional basis, where a sufficiently precise and intelligible description of the subject-matter of the contract pursuant to paragraphs 3 and 4 is not possible; such reference shall be accompanied by the words 'or equivalent'.

## Article 19

### Variants

1. Where the criterion for award is that of the most economically advantageous tender, contracting authorities/entities may authorise tenderers to submit variants.

2. Contracting authorities/entities shall indicate in the contract notice whether or not they authorise variants. Variants shall not be authorised without this indication.

3. Contracting authorities/entities authorising variants shall state in the tender specifications the minimum requirements to be met by the variants and any specific requirements for their presentation.

Only variants meeting the minimum requirements laid down by the contracting authorities/entities shall be taken into consideration.

4. In procedures for awarding supply or service contracts, contracting authorities/entities which have authorised variants may not reject a variant on the sole ground that it would, if successful, lead either to a service contract rather than a supply contract, or to a supply contract rather than a service contract.

#### Article 20

### Conditions for performance of contracts

Contracting authorities/entities may lay down special conditions relating to the performance of a contract, provided that these are compatible with Community law and are indicated in the contract documentation (contract notices, contract documents, descriptive documents or supporting documents). These conditions may, in particular, concern subcontracting or seek to ensure the security of classified information and the security of supply required by the contracting authority/entity, in accordance with Articles 21, 22 and 23, or take environmental or social considerations into account.

#### Article 21

### Subcontracting

1. The successful tenderer shall be free to select its subcontractors for all subcontracts that are not covered by the requirement referred to in paragraphs 3 and 4, and shall in particular not be required to discriminate against potential subcontractors on grounds of nationality.

2. The contracting authority/entity may ask or may be required by a Member State to ask the tenderer:

- to indicate in its tender any share of the contract it may intend to subcontract to third parties and any proposed subcontractor, as well as the subject-matter of the subcontracts for which they are proposed; and/or,
- to indicate any change occurring at the level of subcontractors during the execution of the contract,

3. The contracting authority/entity may oblige or may be required by a Member State to oblige the successful tenderer to apply the provisions set out in Title III to all or certain subcontracts which the successful tenderer intends to award to third parties.

4. Member States may provide that the contracting authority/entity may ask or be required to ask the successful tenderer to subcontract to third parties a share of the contract. The contracting authority/entity that imposes such subcontracting shall express this minimal percentage in the form of a range of values, comprising a minimum and maximum percentage. The maximum percentage may not exceed 30 % of the value of the contract. Such a range shall be proportionate to the object and value of the contract and the nature of the industry sector involved, including the level of competition in that market and the relevant technical capabilities of the industrial base.

Any percentage of subcontracting falling within the range of values indicated by the contracting authority/entity shall be considered to fulfil the subcontracting requirement set out in this paragraph.

Tenderers may propose to subcontract a share of the total value which is above the range required by the contracting authority/entity.

The contracting authority/entity shall ask tenderers to specify in their tender which part or parts of their offer they intend to subcontract to fulfil the requirement referred to in the first subparagraph.

The contracting authority/entity may ask or may be required by a Member State to ask tenderers also to specify which part or parts of their offer they intend to subcontract beyond the required percentage, as well as the subcontractors they have already identified.

The successful tenderer shall award subcontracts corresponding to the percentage which the contracting authority/entity requires it to subcontract in accordance with the provisions of Title III.

5. In all cases, where a Member State provides that contracting authorities/entities may reject the subcontractors selected by the tenderer at the stage of the award procedure of the main contract or by the successful tenderer during the performance of the contract, such rejection may only be based on criteria applied for the selection of the tenderers for the main contract. If the contracting authority/entity rejects a subcontractor, it must produce a written justification to the tenderer or the successful tenderer, setting out why it considers that the subcontractor does not meet the criteria.

6. Requirements referred to in paragraphs 2 to 5 shall be indicated in the contract notices.

7. Paragraphs 1 to 5 shall be without prejudice to the question of the principal economic operator's liability.

## Article 22

**Security of information**

When contracts involve, require and/or contain classified information, the contracting authority/entity shall specify in the contract documentation (contract notices, contract documents, descriptive documents or supporting documents) the measures and requirements necessary to ensure the security of such information at the requisite level.

To this end, the contracting authority/entity may require that the tender contain, *inter alia*, the following particulars:

- (a) a commitment from the tenderer and the subcontractors already identified to appropriately safeguard the confidentiality of all classified information in their possession or coming to their notice throughout the duration of the contract and after termination or conclusion of the contract, in accordance with the relevant laws, regulations and administrative provisions;
- (b) a commitment from the tenderer to obtain the commitment provided in point (a) from other subcontractors to which it will subcontract during the execution of the contract;
- (c) sufficient information on subcontractors already identified to enable the contracting authority/entity to determine that each of them possesses the capabilities required to appropriately safeguard the confidentiality of the classified information to which they have access or which they are required to produce when carrying out their subcontracting activities;
- (d) a commitment from the tenderer to provide the information required under point (c) on any new subcontractor before awarding a subcontract.

In the absence of harmonisation at Community level of national security clearance systems, Member States may provide that the measures and requirements referred to in the second subparagraph have to comply with their national provisions on security clearance. Member States shall recognise the security clearances which they consider equivalent to those issued in accordance with their national law, notwithstanding the possibility to conduct and take into account further investigations of their own, if considered necessary.

## Article 23

**Security of supply**

The contracting authority/entity shall specify in the contract documentation (contract notices, contract documents, descriptive documents or supporting documents) its security of supply requirements.

To this end, the contracting authority/entity may require that the tender contain, *inter alia*, the following particulars:

- (a) certification or documentation demonstrating to the satisfaction of the contracting authority/entity that the tenderer will be able to honour its obligations regarding the export, transfer and transit of goods associated with the contract, including any supporting documentation received from the Member State(s) concerned;
- (b) the indication of any restriction on the contracting authority/entity regarding disclosure, transfer or use of the products and services or any result of those products and services, which would result from export control or security arrangements;
- (c) certification or documentation demonstrating that the organisation and location of the tenderer's supply chain will allow it to comply with the requirements of the contracting authority/entity concerning security of supply set out in the contract documents, and a commitment to ensure that possible changes in its supply chain during the execution of the contract will not affect adversely compliance with these requirements;
- (d) a commitment from the tenderer to establish and/or maintain the capacity required to meet additional needs required by the contracting authority/entity as a result of a crisis, according to terms and conditions to be agreed;
- (e) any supporting documentation received from the tenderer's national authorities regarding the fulfilment of additional needs required by the contracting authority/entity as a result of a crisis;
- (f) a commitment from the tenderer to carry out the maintenance, modernisation or adaptation of the supplies covered by the contract;
- (g) a commitment from the tenderer to inform the contracting authority/entity in due time of any change in its organisation, supply chain or industrial strategy that may affect its obligations to that authority/entity;
- (h) a commitment from the tenderer to provide the contracting authority/entity, according to terms and conditions to be agreed, with all specific means necessary for the production of spare parts, components, assemblies and special testing equipment, including technical drawings, licenses and instructions for use, in the event that it is no longer able to provide these supplies.

A tenderer may not be required to obtain a commitment from a Member State that would prejudice that Member State's freedom to apply, in accordance with relevant international or Community law, its national export, transfer or transit licensing criteria in the circumstances prevailing at the time of such a licensing decision.

*Article 24***Obligations relating to taxes, environmental protection, employment protection provisions and working conditions**

1. A contracting authority/entity may state in the contract documents, or be obliged by a Member State so to state, the body or bodies from which a candidate or tenderer may obtain the appropriate information on the obligations relating to taxes, to environmental protection, to the employment protection provisions and to the working conditions which are in force in the Member State, region, locality or third country in which the works are to be carried out or services are to be provided and which shall be applicable to the works carried out on site or to the services provided during the performance of the contract.

2. The contracting authority/entity which supplies the information referred to in paragraph 1 shall request the tenderers to indicate that they have taken account, when drawing up their tender, of the obligations relating to employment protection provisions and the working conditions which are in force in the place where the works are to be carried out or the service is to be provided.

The first subparagraph shall be without prejudice to the application of the provisions of Article 49 concerning the examination of abnormally low tenders.

*CHAPTER V***Procedures***Article 25***Procedures to be applied**

In awarding contracts, contracting authorities/entities shall apply the national procedures adjusted for the purposes of this Directive.

Contracting authorities/entities may choose to award contracts by applying the restricted procedure or the negotiated procedure with publication of a contract notice.

Under the circumstances referred to in Article 27, they may award their contracts by means of a competitive dialogue.

In the specific cases and circumstances referred to expressly in Article 28, the contracting authorities/entities may apply a negotiated procedure without publication of a contract notice.

*Article 26***Negotiated procedure with publication of a contract notice**

1. In negotiated procedures with publication of a contract notice, contracting authorities/entities shall negotiate with tenderers the tenders submitted by them in order to adapt them to the

requirements they have set in the contract notice, the contract documents and supporting documents, if any, and to seek out the best tender in accordance with Article 47.

2. During the negotiations, contracting authorities/entities shall ensure the equal treatment of all tenderers. In particular, they shall not provide information in a discriminatory manner which may give some tenderers an advantage over others.

3. Contracting authorities/entities may provide for the negotiated procedure to take place in successive stages in order to reduce the number of tenders to be negotiated by applying the award criteria set out in the contract notice or the contract documents. The contract notice or the contract documents shall indicate whether or not this option has been used.

*Article 27***Competitive dialogue**

1. In the case of particularly complex contracts, Member States may provide that where contracting authorities/entities consider that use of the restricted procedure or the negotiated procedure with publication of a contract notice will not allow the award of the contract, the latter may make use of the competitive dialogue in accordance with this Article.

A contract shall be awarded on the sole basis of the award criterion for the most economically advantageous tender.

2. Contracting authorities/entities shall publish a contract notice setting out their needs and requirements, which they shall define in that notice and/or in a descriptive document.

3. Contracting authorities/entities shall open with the candidates selected in accordance with the relevant provisions of Articles 38 to 46, a dialogue, the aim of which shall be to identify and define the means best suited to satisfying their needs. They may discuss all aspects of the contract with the chosen candidates during this dialogue.

During the dialogue, contracting authorities/entities shall ensure equality of treatment among all tenderers. In particular, they shall not provide information in a discriminatory manner which may give some tenderers an advantage over others.

Contracting authorities/entities may not reveal to the other participants solutions proposed or other confidential information communicated by a candidate participating in the dialogue, without the agreement of that candidate.

4. Contracting authorities/entities may provide for the procedure to take place in successive stages in order to reduce the number of solutions to be discussed during the dialogue stage by applying the award criteria set out in the contract notice or the descriptive document. The contract notice or the descriptive document shall indicate that recourse may be had to this option.

5. The contracting authority/entity shall continue such dialogue until it can identify the solution or solutions, if necessary after comparing them, which are likely to meet its needs.

6. Having declared that the dialogue is concluded and having so informed the participants, contracting authorities/entities shall ask them to submit their final tenders on the basis of the solution or solutions presented and specified during the dialogue. These tenders shall contain all the elements required and necessary for the performance of the project.

These tenders may be clarified, specified and fine-tuned at the request of the contracting authority/entity. However, such clarification, specification, fine-tuning or additional information may not involve changes to the basic features of the tender or the call for tender, variations in which are likely to distort competition or have a discriminatory effect.

7. Contracting authorities/entities shall assess the tenders received on the basis of the award criteria laid down in the contract notice or the descriptive document and shall choose the most economically advantageous tender in accordance with Article 47.

At the request of the contracting authority/entity, the tenderer identified as having submitted the most economically advantageous tender may be asked to clarify aspects of the tender or confirm commitments contained in the tender, provided this does not have the effect of modifying substantial aspects of the tender or of the call for tenders and does not risk distorting competition or causing discrimination.

8. The contracting authorities/entities may specify prices or payments to the participants in the dialogue.

#### Article 28

##### **Cases justifying use of the negotiated procedure without publication of a contract notice**

In the following cases, contracting authorities/entities may award contracts by a negotiated procedure without prior publication of a contract notice and shall justify the use of this procedure in the contract award notice as required in Article 30(3):

(1) for works contracts, supply contracts and service contracts:

- (a) when no tenders or no suitable tenders or no applications have been submitted in response to a restricted procedure, a negotiated procedure with prior publication of a contract notice or a competitive dialogue, provided that the initial conditions of the contract are not substantially altered and on condition that a report is sent to the Commission, if it so requests;

(b) in the event of irregular tenders or the submission of tenders which are unacceptable under national provisions compatible with Articles 5, 19, 21 to 24 and Chapter VII of Title II, in response to a restricted procedure, a negotiated procedure with publication or a competitive dialogue, insofar as:

- (i) the original terms of the contract are not substantially altered, and

- (ii) they include in the negotiated procedure all of, and only, the tenderers which satisfy the criteria of Articles 39 to 46 and which, during the prior restricted procedure or competitive dialogue, had submitted tenders in accordance with the formal requirements of the tendering procedure;

(c) when the periods laid down for the restricted procedure and negotiated procedure with publication of a contract notice, including the shortened periods referred to in Article 33(7), are incompatible with the urgency resulting from a crisis. This may apply for instance in the cases referred to in point (d) of the second paragraph of Article 23;

(d) insofar as is strictly necessary when, for reasons of extreme urgency brought about by events unforeseeable by the contracting authorities/entities in question, the time-limit for the restricted procedure or the negotiated procedure with publication of a contract notice, including the shortened time-limits as referred to in Article 33(7), cannot be complied with. The circumstances invoked to justify extreme urgency must not in any event be attributable to the contracting authority/entity;

(e) when, for technical reasons or reasons connected with the protection of exclusive rights, the contract may be awarded only to a particular economic operator;

(2) for service contracts and supply contracts:

- (a) for research and development services other than those referred to in Article 13;

- (b) for products manufactured purely for the purpose of research and development, with the exception of quantity production to establish commercial viability or recover research and development costs;

## (3) for supply contracts:

- (a) for additional deliveries by the original supplier which are intended either as a partial replacement of normal supplies or installations or as the extension of existing supplies or installations where a change of supplier would oblige the contracting authority/entity to acquire material having different technical characteristics which would result in incompatibility or disproportionate technical difficulties in operation and maintenance.

The length of such contracts, as well as that of recurrent contracts, may not exceed five years, except in exceptional circumstances determined by taking into account the expected service life of any delivered items, installations or systems, and the technical difficulties which a change of supplier may cause;

- (b) for supplies quoted and purchased on a commodity market;
- (c) for the purchase of supplies on particularly advantageous terms, from either a supplier which is definitively winding up its business activities, or the receivers or liquidators of a bankruptcy, an arrangement with creditors, or a similar procedure under national laws or regulations;

## (4) for works contracts and service contracts:

- (a) for additional works or services not included in the project initially considered or in the original contract but which have, through unforeseen circumstances, become necessary for the performance of the works or services described therein, on condition that the award is made to the economic operator performing such works or services:

- (i) when such additional works or services cannot be technically or economically separated from the original contract without major inconvenience to the contracting authorities/entities, or
- (ii) when such works or services, although separable from the performance of the original contract, are strictly necessary for its completion.

However, the aggregate value of contracts awarded for additional works or services may not exceed 50 % of the amount of the original contract;

- (b) for new works or services consisting in the repetition of similar works or services entrusted to the economic operator to which the same contracting authorities/entities awarded an original contract, provided that such works or services are in conformity with a basic project for which the original contract was awarded according to the restricted procedure, the negotiated procedure with publication of a contract notice or a competitive dialogue.

As soon as the first project is put up for tender, the possible use of this procedure shall be disclosed, and the total estimated cost of subsequent works or services shall be taken into consideration by the contracting authorities/entities when they apply Article 8.

This procedure may be used only during the five years following the conclusion of the original contract, except in exceptional circumstances determined by taking into account the expected service life of any delivered items, installations or systems, and the technical difficulties which a change of supplier may cause;

- (5) for contracts related to the provision of air and maritime transport services for the armed forces or security forces of a Member State deployed or to be deployed abroad, when the contracting authority/entity has to procure such services from economic operators that guarantee the validity of their tenders only for such short periods that the time-limit for the restricted procedure or the negotiated procedure with publication of a contract notice, including the shortened time-limits as referred to in Article 33(7), cannot be complied with.

*Article 29***Framework agreements**

1. Member States may provide that contracting authorities/entities may conclude framework agreements.
2. For the purpose of concluding a framework agreement, contracting authorities/entities shall follow the rules of procedure referred to in this Directive for all phases up to the award of contracts based on that framework agreement. The parties to the framework agreement shall be chosen by applying the award criteria set in accordance with Article 47.

Contracts based on a framework agreement shall be awarded in accordance with the procedures laid down in paragraphs 3 and 4. Those procedures may be applied only between the contracting authorities/entities and the economic operators originally party to the framework agreement.

When awarding contracts based on a framework agreement, the parties may under no circumstances make substantial amendments to the terms laid down in that framework agreement, in particular in the case referred to in paragraph 3.

The term of a framework agreement may not exceed seven years, except in exceptional circumstances determined by taking into account the expected service life of any delivered items, installations or systems, and the technical difficulties which a change of supplier may cause.

In such exceptional circumstances, the contracting authorities/entities shall provide an appropriate justification for those circumstances in the notice referred to in Article 30(3).

Contracting authorities/entities may not use framework agreements improperly or in such a way as to prevent, restrict or distort competition.

3. Where a framework agreement is concluded with a single economic operator, contracts based on that agreement shall be awarded within the limits of the terms laid down in the framework agreement.

For the award of those contracts, contracting authorities/entities may consult the operator party to the framework agreement in writing, requesting it to supplement its tender as necessary.

4. Where a framework agreement is concluded with several economic operators, the latter must be at least three in number, insofar as there is a sufficient number of economic operators that satisfy the selection criteria and/or of admissible tenders that meet the award criteria.

Contracts based on framework agreements concluded with several economic operators may be awarded either:

- by application of the terms laid down in the framework agreement without reopening competition, or,
- where not all the terms are laid down in the framework agreement, when the parties are again in competition on the basis of the same and, if necessary, more precisely formulated terms, and, where appropriate, other terms referred to in the contract documents of the framework agreement, in accordance with the following procedure:

- (a) for every contract to be awarded, contracting authorities/entities shall consult in writing the economic operators capable of performing the contract;

- (b) contracting authorities/entities shall fix a time-limit which is sufficiently long to allow tenders for each specific contract to be submitted, taking into account factors such as the complexity of the subject-matter of the contract and the time needed to submit tenders;

- (c) tenders shall be submitted in writing and their content remain confidential until the stipulated time-limit for reply has expired;

- (d) contracting authorities/entities shall award each contract to the tenderer which has submitted the best tender on the basis of the award criteria set out in the contract documents of the framework agreement.

## CHAPTER VI

### **Rules on advertising and transparency**

#### Section 1

#### **Publication of notices**

##### *Article 30*

##### **Notices**

1. Contracting authorities/entities may make known, by means of a prior information notice published by the Commission or by themselves on their 'buyer profile', as described in point 2 of Annex VI:

- (a) where supplies are concerned, the estimated total value of the contracts or the framework agreements by product area which they intend to award over the following 12 months.

The product area shall be established by the contracting authorities/entities by reference to the CPV nomenclature;

- (b) where services are concerned, the estimated total value of the contracts or framework agreements in each of the categories of services which they intend to award over the following 12 months;
- (c) where works are concerned, the essential characteristics of the contracts or framework agreements which they intend to award.

The notices referred to in the first subparagraph shall be sent to the Commission or published on the buyer profile at the earliest opportunity after the decision approving the project for which the contracting authorities/entities intend to award contracts or framework agreements.

Contracting authorities/entities that publish a prior information notice on their buyer profiles shall send the Commission, electronically, a notice of publication of the prior information notice on a buyer profile, in accordance with the format and detailed procedures for sending notices set out in point 3 of Annex VI.

Publication of the notices referred to in the first subparagraph shall be compulsory only where the contracting authorities/entities take the option of shortening the time-limits for the receipt of tenders as laid down in Article 33(3).

This paragraph shall not apply to negotiated procedures without the prior publication of a contract notice.

2. Contracting authorities/entities which wish to award a contract or a framework agreement by restricted procedure, negotiated procedure with the publication of a contract notice or a competitive dialogue shall make known their intention by means of a contract notice.

3. Contracting authorities/entities which have awarded a contract or concluded a framework agreement shall send a notice of the results of the award procedure no later than 48 days after the award of the contract or the conclusion of the framework agreement.

In the case of framework agreements concluded in accordance with Article 29, the contracting authorities/entities shall not be bound to send a notice of the results of the award procedure for each contract based on that agreement.

Certain information on the contract award or the conclusion of the framework agreement may be withheld from publication where release of such information would impede law enforcement or otherwise be contrary to the public interest, in particular defence and/or security interests, would harm the legitimate commercial interests of economic operators, public or private, or might prejudice fair competition between them.

#### Article 31

### Non-mandatory publication

Contracting authorities/entities may publish, in accordance with Article 32, notices concerning contracts which are not subject to the publication requirement laid down in this Directive.

#### Article 32

### Form and manner of publication of notices

1. Notices shall include the information referred to in Annex IV and, where appropriate, any other information deemed useful by the contracting authority/entity in the format of the standard forms adopted by the Commission in accordance with the advisory procedure referred to in Article 67(2).

2. Notices sent by contracting authorities/entities to the Commission shall be sent either by electronic means in accordance with the format and procedures for transmission set out in point 3 of Annex VI, or by other means. In the event of recourse to the accelerated procedure set out in Article 33(7), notices must be sent either by fax or by electronic means, in accordance with the format and procedures for transmission set out in point 3 of Annex VI.

Notices shall be published in accordance with the technical characteristics for publication set out in point 1(a) and (b) of Annex VI.

3. Notices drawn up and transmitted by electronic means in accordance with the format and procedures for transmission set out in point 3 of Annex VI shall be published no later than five days after they are sent.

Notices which are not transmitted by electronic means in accordance with the format and procedures for transmission set out in point 3 of Annex VI shall be published no later than 12 days after they are sent, or, in the case of the accelerated procedure referred to in Article 33(7), no later than five days after they are sent.

4. Contract notices shall be published in full in an official language of the Community, as chosen by the contracting authority/entity, this original language version constituting the sole authentic text. A summary of the important elements of each notice shall be published in the other official languages.

The costs of publication of such notices by the Commission shall be borne by the Community.

5. Notices and their contents may not be published at national level or on a buyer profile before the date on which they are sent to the Commission.

Notices published at national level shall not contain information other than that contained in the notices sent to the Commission or published on a buyer profile in accordance with the first subparagraph of Article 30(1), but shall mention the date of dispatch of the notice to the Commission or its publication on a buyer profile.

Prior information notices may not be published on a buyer profile before the dispatch to the Commission of the notice of their publication in that form; they shall mention the date of that dispatch.

6. The content of notices not sent by electronic means in accordance with the format and procedures for transmission set out in point 3 of Annex VI shall be limited to approximately 650 words.

7. Contracting authorities/entities must be able to supply proof of the dates on which notices are dispatched.

8. The Commission shall give the contracting authority/entity confirmation of the publication of the information sent, mentioning the date of such publication. Such confirmation shall constitute proof of publication.

## Section 2

### Time-limits

#### Article 33

#### Time-limits for receipt of requests to participate and for receipt of tenders

1. When fixing the time-limits for receipt of requests to participate and tenders, contracting authorities/entities shall take particular account of the complexity of the contract and the time required for drawing up tenders, without prejudice to the minimum time-limits set by this Article.

2. In restricted procedures, negotiated procedures with the publication of a contract notice and use of a competitive dialogue, the minimum time-limit for receipt of requests to participate shall be 37 days from the date on which the contract notice is sent.

In the case of restricted procedures, the minimum time-limit for the receipt of tenders shall be 40 days from the date on which the invitation is sent.

3. When contracting authorities/entities have published a prior information notice, the minimum time-limit for the receipt of tenders under the second subparagraph of paragraph 2 may, as a general rule, be shortened to 36 days, but under no circumstances to less than 22 days.

The time-limit shall run from the date on which the invitation to tender was sent.

The shortened time-limits referred to in the first subparagraph shall be permitted, provided that the prior information notice has included all the information required for the contract notice set out in Annex IV, insofar as that information is available at the time the notice is published and that the prior information notice was sent for publication between 52 days and 12 months before the date on which the contract notice was sent.

4. Where notices are drawn up and transmitted by electronic means in accordance with the format and procedure for sending notices set out in point 3 of Annex VI, the time-limit for the receipt of the requests to participate referred to in the first subparagraph of paragraph 2 may be shortened by seven days.

5. The time-limits for receipt of tenders referred to in the second subparagraph of paragraph 2 may be reduced by five days where the contracting authority/entity offers unrestricted and full direct access by electronic means to the contract documents and any supporting documents from the date of publication of the

notice in accordance with Annex VI, specifying in the text of the notice the Internet address at which this documentation is accessible.

This reduction may be added to that referred to in paragraph 4.

6. If, for whatever reasons, the contract documents and supporting documents or additional information, although requested in good time, are not supplied within the time-limits set out in Article 34, or where tenders can be made only after a visit to the site or after on-the-spot inspection of the documents supporting the contract documents, the time-limits for the receipt of tenders shall be extended so that all economic operators concerned may be aware of all the information needed to produce tenders.

7. In the case of restricted procedures and negotiated procedures with publication of a contract notice, where urgency renders impracticable the minimum time-limits laid down in this Article, contracting authorities/entities may fix:

- a time-limit for receipt of requests to participate which may not be less than 15 days from the date on which the contract notice is dispatched, or less than 10 days if the notice was sent by electronic means, in accordance with the format and procedure for sending notices set out in point 3 of Annex VI; and
- in the case of restricted procedures, a time-limit for receipt of tenders which shall not be less than 10 days from the date of the invitation to tender,

## Section 3

### Information content and means of transmission

#### Article 34

#### Invitations to tender, negotiate or participate in a dialogue

1. In restricted procedures, negotiated procedures with the publication of a contract notice and competitive dialogues, the contracting authorities/entities shall simultaneously and in writing invite the selected candidates to submit their tenders or to negotiate, or, in the case of a competitive dialogue, to take part in the dialogue.

2. The invitation to the candidates shall include either:

- a copy of the contract documents or of the descriptive document and any supporting documents, or,
- a reference to accessing the documents referred to in the first indent when they are made directly available by electronic means in accordance with Article 33(5),

3. Where the contract documents, the descriptive document and/or any supporting documents are held by an entity other than the contracting authority/entity responsible for the award procedure, the invitation shall state the address from which that documentation may be requested and, if appropriate, the closing date for requesting such documents, the sum payable for obtaining them and any payment procedures. The competent department shall send that documentation to the economic operator without delay upon receipt of a request.

4. The additional information on the contract documents, the descriptive document and/or the supporting documents shall be sent by the contracting authority/entity or the competent department not less than six days before the deadline fixed for the receipt of tenders, provided that it is requested in good time. In the event of a restricted or an accelerated procedure, that period shall be four days.

5. In addition to the particulars provided for in paragraphs 2, 3 and 4, the invitation shall contain at least:

- (a) a reference to the contract notice published;
- (b) the deadline for receipt of tenders, the address to which the tenders must be sent and the language or languages in which the tenders must be drawn up. In the case of a competitive dialogue, this information shall not be contained in the invitation to take part in the dialogue, but in the invitation to submit a tender;
- (c) in the case of a competitive dialogue, the date and the address set for the start of the consultation stage and the language or languages used;
- (d) an indication of any documents to be annexed, either to support the verifiable statements provided by the candidate in accordance with Article 38, or to supplement the information provided for in that Article under the same conditions as those laid down in Articles 41 and 42;
- (e) the relative weighting of criteria for the award of the contract or, where appropriate, the descending order of importance of the criteria used to define the economically most advantageous tender, if they are not given in the contract notice, the contract documents or the descriptive document.

#### *Article 35*

### **Information for candidates and tenderers**

1. The contracting authorities/entities shall, at the earliest opportunity, inform candidates and tenderers of decisions reached concerning the award of a contract or the conclusion of a framework agreement, including the grounds for any decision not to award a contract or conclude a framework agreement for which there has been competitive tendering or to recommence the procedure; that information shall be given in writing upon request to the contracting authorities/entities.

2. At the request of the party concerned, the contracting authority/entity shall, subject to paragraph 3, at the earliest opportunity and at the latest within 15 days of receipt of the written request for information, inform the parties as follows:

- (a) any unsuccessful candidate of the reasons for the rejection of the application;
- (b) any unsuccessful tenderer of the reasons for the rejection of the tender, including, in particular, for the cases referred to in Article 18(4) and (5) the reasons for its decision of non-equivalence or its decision that the works, supplies or services do not meet the performance or functional requirements, and in the cases referred to in Articles 22 and 23, the reasons for its decision of non-conformity with the requirements of security of information and security of supply;
- (c) any tenderer which has made an admissible tender that has been rejected, of the characteristics and relative advantages of the tender selected, as well as the name of the successful tenderer or the parties to the framework agreement.

3. Contracting authorities/entities may decide to withhold certain information on the contract award or the conclusion of the framework agreements referred to in paragraph 1 where release of such information would impede law enforcement or otherwise be contrary to the public interest, in particular defence and/or security interests, would prejudice the legitimate commercial interests of economic operators, whether public or private, or might prejudice fair competition between them.

## Section 4

### **Communication**

#### *Article 36*

### **Rules applying to communication**

1. All communication and information exchange referred to in this Title may be made by post, fax, electronic means in accordance with paragraphs 4 and 5, telephone in the cases and circumstances referred to in paragraph 6, or a combination of those means, according to the choice of the contracting authority/entity.

2. The means of communication chosen must be generally available and thus not restrict the access of economic operators to the tendering procedure.

3. Communication and the exchange and storage of information shall be carried out in such a way as to ensure that the integrity of data and the confidentiality of requests to participate and tenders are preserved, and that the contracting authorities/entities examine the content of requests to participate and tenders only after the time-limit set for submitting them has expired.

4. The tools to be used for communicating by electronic means, as well as their technical characteristics, must be non-discriminatory, generally available and compatible with information and communication technology products in general use.

5. The following rules shall apply to devices for the electronic transmission and receipt of tenders and devices for the electronic receipt of requests to participate:

- (a) information regarding the specifications necessary for the electronic submission of tenders and requests to participate, including encryption, shall be available to interested parties. Moreover, devices for the electronic receipt of tenders and requests to participate shall conform to the requirements of Annex VIII;
- (b) Member States may, in compliance with Article 5 of Directive 1999/93/EC, require electronic tenders to be accompanied by an advanced electronic signature, in conformity with paragraph 1 thereof;
- (c) Member States may introduce or maintain voluntary arrangements for accreditation intended to improve the level of the certification service provided for such devices;
- (d) candidates shall undertake to submit, before expiry of the time-limit laid down for submission of tenders or requests to participate, the documents, certificates and declarations referred to in Articles 39 to 44 and Article 46, if they do not exist in electronic format.

6. The following rules shall apply to the transmission of requests to participate:

- (a) requests to participate in procedures for the award of contracts may be made in writing or by telephone;
- (b) where requests to participate are made by telephone, a written confirmation must be sent before expiry of the time-limit set for their receipt;
- (c) contracting authorities/entities may require that requests for participation made by fax must be confirmed by post or electronic means where this is necessary for the purposes of legal proof. Any such requirement, together with the time-limit by which it must be met, must be stated by the contracting authority/entity in the contract notice.

## Section 5

### Reports

#### Article 37

#### Content of reports

1. For every contract and framework agreement, the contracting authorities/entities shall draw up a written report to confirm that the selection procedure was undertaken in a transparent and non-discriminatory manner, which shall include at least the following:

- (a) the name and address of the contracting authority/entity and the subject and value of the contract or framework agreement;
- (b) the award procedure chosen;
- (c) in the case of a competitive dialogue, the circumstances justifying the use of this procedure;
- (d) in the case of a negotiated procedure without prior publication of a contract notice, the circumstances referred to in Article 28 which justify the use of this procedure; if appropriate, justification for exceeding the time-limits laid down in the second subparagraph of Article 28(3)(a) and the third subparagraph of Article 28(4)(b) and for exceeding the 50 % limit laid down in the second subparagraph of Article 28(4)(a);
- (e) if appropriate, the reasons for the framework agreement lasting more than seven years;
- (f) the name of the candidates chosen and the reason for this choice;
- (g) the name of the candidates excluded and the reasons for their rejection;
- (h) the reasons for the rejection of tenders;
- (i) the name of the successful tenderer and the reasons why its tender was selected, and, if known, the share of the contract or framework agreement which the successful tenderer intends, or will be required, to subcontract to third parties;
- (j) if necessary, the reasons why the contracting authority/entity decided not to award a contract or framework agreement.

2. Contracting authorities/entities shall take appropriate steps to document the progress of award procedures conducted by electronic means.

3. The report, or the main features of it, shall be communicated to the Commission, if it so requests.

## CHAPTER VII

**Conduct of the procedure**

## Section 1

**General provisions**

## Article 38

**Verification of the suitability and choice of participants and award of contracts**

1. Contracts shall be awarded on the basis of the criteria laid down in Articles 47 and 49, taking into account Article 19, after the suitability of the economic operators not excluded under Articles 39 or 40 has been checked by contracting authorities/entities in accordance with the criteria of economic and financial standing, of professional and technical knowledge or ability referred to in Articles 41 to 46 and, where appropriate, with the non-discriminatory rules and criteria referred to in paragraph 3.

2. Contracting authorities/entities may require candidates to meet minimum capacity levels in accordance with Articles 41 and 42.

The extent of the information referred to in Articles 41 and 42 and the minimum levels of ability required for a specific contract must be related and proportionate to the subject-matter of the contract.

These minimum levels shall be indicated in the contract notice.

3. In restricted procedures, negotiated procedures with publication of a contract notice and competitive dialogues, contracting authorities/entities may limit the number of suitable candidates they will invite to tender or with which they will conduct a dialogue. In this case:

- the contracting authorities/entities shall indicate in the contract notice the objective and non-discriminatory criteria or rules they intend to apply, the minimum number of candidates they intend to invite and, where appropriate, the maximum number. The minimum number of candidates they intend to invite may not be less than three;
- subsequently, the contracting authorities/entities shall invite a number of candidates at least equal to the minimum number set in advance, provided a sufficient number of suitable candidates is available,

Where the number of candidates meeting the selection criteria and the minimum levels of ability is below the minimum number, the contracting authority/entity may continue the procedure by inviting the candidate or candidates with the required capabilities.

If the contracting authority/entity considers that the number of suitable candidates is too low to ensure genuine competition, it may suspend the procedure and republish the initial contract notice in accordance with Article 30(2) and Article 32, fixing a

new deadline for the submission of requests to participate. In this case, the candidates selected upon the first publication and those selected upon the second shall be invited in accordance with Article 34. This option shall be without prejudice to the ability of the contracting authority/entity to cancel the ongoing procurement procedure and launch a new procedure.

4. In the context of an award procedure, the contracting authority/entity may not include economic operators other than those which made a request to participate, or candidates without the requisite capabilities.

5. Where the contracting authorities/entities exercise the option of reducing the number of solutions to be discussed or of tenders to be negotiated, as provided for in Article 26(3) and Article 27(4), they shall do so by applying the award criteria stated in the contract notice or the contract documents. In the final stage, the number arrived at shall make for genuine competition insofar as there are enough solutions or suitable candidates.

## Section 2

**Criteria for qualitative selection**

## Article 39

**Personal situation of the candidate or tenderer**

1. Any candidate or tenderer which has been the subject of a conviction by final judgment of which the contracting authority/entity is aware, for one or more of the reasons listed below, shall be excluded from participation in a contract:

- (a) participation in a criminal organisation, as defined in Article 2(1) of Joint Action 98/733/JHA <sup>(1)</sup>;
- (b) corruption, as defined in Article 3 of the Act of 26 May 1997 <sup>(2)</sup> and Article 2(1) of Framework Decision 2003/568/JHA <sup>(3)</sup>;

<sup>(1)</sup> Joint Action 98/733/JHA of 21 December 1998 adopted by the Council on the basis of Article K.3 of the Treaty on European Union, on making it a criminal offence to participate in a criminal organisation in the Member States of the European Union (OJ L 351, 29.12.1998, p. 1).

<sup>(2)</sup> Council Act of 26 May 1997 drawing up, on the basis of Article K.3 (2) (c) of the Treaty on European Union, the Convention on the fight against corruption involving officials of the European Communities or officials of Member States of the European Union (OJ C 195, 25.6.1997, p. 1).

<sup>(3)</sup> Council Framework Decision 2003/568/JHA of 22 July 2003 on combating corruption in the private sector (OJ L 192, 31.7.2003, p. 54).

- (c) fraud within the meaning of Article 1 of the Convention relating to the protection of the financial interests of the European Communities <sup>(1)</sup>;
- (d) terrorist offences or offences linked to terrorist activities, as defined in Articles 1 and 3 of Framework Decision 2002/475/JHA <sup>(2)</sup> respectively, or inciting, aiding or abetting or attempting to commit an offence, as referred to in Article 4 of that Framework Decision;
- (e) money laundering and terrorist financing, as defined in Article 1 of Directive 2005/60/EC <sup>(3)</sup>.

Member States shall specify, in accordance with their national law and having regard to Community law, the implementing conditions for this paragraph.

They may provide for a derogation from the requirement referred to in the first subparagraph for overriding requirements in the general interest.

For the purposes of this paragraph, the contracting authorities/entities shall, where appropriate, ask candidates or tenderers to supply the documents referred to in paragraph 3 and may, where they have doubts concerning the personal situation of such candidates or tenderers, also apply to the competent authorities to obtain any information they consider necessary on the personal situation of the candidates or tenderers concerned. Where the information concerns a candidate or tenderer established in a State other than that of the contracting authority/entity, the contracting authority/entity may seek the cooperation of the competent authorities. Having regard for the national laws of the Member State where the candidates or tenderers are established, such requests shall relate to legal and/or natural persons, including, if appropriate, company directors and any person having powers of representation, decision or control in respect of the candidate or tenderer.

2. Any economic operator may be excluded from participation in a contract where that economic operator:

- (a) is bankrupt or is being wound up, where its affairs are being administered by a court, where it has entered into an arrangement with creditors, where it has suspended business activities or is in any analogous situation arising from a similar procedure under national laws and regulations;
- (b) is the subject of proceedings for a declaration of bankruptcy, for an order for compulsory winding up or administration by a court or of an arrangement with creditors or of any other similar proceedings under national laws and regulations;

<sup>(1)</sup> OJ C 316, 27.11.1995, p. 49.

<sup>(2)</sup> Council Framework Decision 2002/475/JHA of 13 June 2002 on combating terrorism (OJ L 164, 22.6.2002, p. 3).

<sup>(3)</sup> Directive 2005/60/EC of the European Parliament and of the Council of 26 October 2005 on the prevention of the use of the financial system for the purpose of money laundering and terrorist financing (OJ L 309, 25.11.2005, p. 15).

- (c) has been convicted by a judgment which has the force of *res judicata* in accordance with the legal provisions of the country of any offence concerning its professional conduct, such as, for example, infringement of existing legislation on the export of defence and/or security equipment;
- (d) has been guilty of grave professional misconduct proven by any means which the contracting authority/entity can supply, such as a breach of obligations regarding security of information or security of supply during a previous contract;
- (e) has been found, on the basis of any means of evidence, including protected data sources, not to possess the reliability necessary to exclude risks to the security of the Member State;
- (f) has not fulfilled obligations relating to the payment of social security contributions in accordance with the legal provisions of the country in which it is established or with those of the country of the contracting authority/entity;
- (g) has not fulfilled obligations relating to the payment of taxes in accordance with the legal provisions of the country in which it is established or with those of the country of the contracting authority/entity;
- (h) is guilty of serious misrepresentation in supplying the information required under this Section, or has not supplied such information.

Member States shall specify, in accordance with their national law and having regard for Community law, the implementing conditions for this paragraph.

3. Contracting authorities/entities shall accept the following as sufficient evidence that none of the cases specified in paragraph 1 or paragraph 2(a), (b), (c), (f) or (g) applies to the economic operator:

- (a) as regards paragraph 1 and paragraph 2(a), (b) and (c), the production of an extract from the 'judicial record' or, failing that, of an equivalent document issued by a competent judicial or administrative authority in the country of origin or provenance, showing that these requirements have been met;
- (b) as regards paragraph 2(f) and (g), a certificate issued by the competent authority in the Member State concerned.

Where the country in question does not issue such documents or certificates, or where these do not cover all the cases specified in paragraph 1 and paragraph 2(a), (b) and (c), they may be replaced by a declaration on oath or, in Member States where there is no provision for declarations on oath, by a solemn declaration made by the person concerned before a competent judicial or administrative authority, a notary or a competent professional or trade body, in the country of origin or provenance.

4. Member States shall designate the authorities and bodies competent to issue the documents, certificates and declarations referred to in paragraph 3, and shall inform the Commission thereof. Such notification shall be without prejudice to data protection law.

#### Article 40

### Suitability to pursue the professional activity

Where a candidate is required to be enrolled on a professional or trade register in its Member State of origin or establishment in order to pursue its professional activity, it may be requested to prove its enrolment on such a register or to provide a declaration on oath or a certificate as described in Part A of Annex VII for works contracts, Part B of Annex VII for supply contracts and Part C of Annex VII for service contracts. The lists set out in Annex VII are indicative. Member States shall notify the Commission and the other Member States of any changes to their registers and of the means of evidence referred to in these lists.

In procedures for the award of service contracts, insofar as candidates have to possess a particular authorisation or be a member of a particular organisation in order to be able to perform the service concerned in their country of origin, the contracting authority/entity may require them to prove that they hold such authorisation or membership.

This Article shall be without prejudice to Community law on the freedom of establishment and the freedom to provide services.

#### Article 41

### Economic and financial standing

1. Proof of an economic operator's economic and financial standing may, as a general rule, be furnished by one or more of the following references:

- (a) appropriate statements from a bank or, where appropriate, evidence of professional risk indemnity insurance;
- (b) the presentation of balance sheets or extracts from balance sheets, where publication of the balance sheet is required under the law of the country in which the economic operator is established;
- (c) a statement of the undertaking's overall turnover and, where appropriate, of turnover in the area covered by the contract for a maximum of the last three financial years available, depending on the date on which the undertaking was set up or the economic operator started trading, insofar as information on such turnovers is available.

2. An economic operator may, where appropriate and for a particular contract, rely on the capacities of other entities, regardless of the legal nature of the links which it has with them. It must in that case prove to the contracting authority/entity that it will have at its disposal the resources necessary, for example, by producing an undertaking by those entities to that effect.

3. Under the same conditions, a consortium of economic operators as referred to in Article 4 may rely on the capacities of participants in the consortium or of other entities.

4. Contracting authorities/entities shall specify in the contract notice which reference or references referred to in paragraph 1 they have chosen, and which other references must be provided.

5. If, for any valid reason, the economic operator is unable to provide the references requested by the contracting authority/entity, it may prove its economic and financial standing by any other document which the contracting authority/entity considers appropriate.

#### Article 42

### Technical and/or professional ability

1. Evidence of economic operators' technical abilities may, as a general rule, be furnished by one or more of the following means, according to the nature, quantity or importance and use of the works, supplies or services:

- (a) (i) a list of the works carried out over the past five years, accompanied by certificates of satisfactory execution for the most important works. These certificates shall indicate the value, date and location of the works and shall specify whether they were carried out according to the rules of the trade and properly completed. Where appropriate, the competent authority shall submit these certificates to the contracting authority/entity directly;
- (ii) a list of the principal deliveries effected or the main services provided, as a general rule, in the past five years, with the sums, dates and recipients, whether public or private, involved. Evidence of delivery and services provided shall be given:
  - where the recipient was a contracting authority/entity, in the form of certificates issued or countersigned by the competent authority,
  - where the recipient was a private purchaser, by the purchaser's certification or, failing this, simply by a declaration by the economic operator,

- (b) an indication of the technicians or technical bodies involved, whether or not they belong directly to the economic operator's undertaking, especially those responsible for quality control and, in the case of works contracts, those upon which the contractor can call in order to carry out the work;
- (c) a description of the technical facilities and measures used by the economic operator to ensure quality and the undertaking's study and research facilities, as well as internal rules regarding intellectual property;
- (d) a check carried out by the contracting authorities/entities or on their behalf by a competent official body of the country in which the economic operator is established, subject to that body's agreement, on the production capacities of the supplier or the technical capacity of the economic operator and, if necessary, on the means of study and research which are available to it and the quality control measures it will operate;
- (e) in the case of works contracts, service contracts or supply contracts also covering siting and installation operations or services, the educational and professional qualifications of the economic operator and/or those of the undertaking's managerial staff and, in particular, those of the person or persons responsible for providing the services or managing the work;
- (f) for works contracts and services contracts, and only in appropriate cases, an indication of the environmental management measures that the economic operator will be able to apply when performing the contract;
- (g) a statement of the average annual manpower of the service provider or contractor and the number of managerial staff for the last three years;
- (h) a description of the tools, material, technical equipment, staff numbers and know-how and/or sources of supply — with an indication of the geographical location when it is outside the territory of the Union — which the economic operator has at its disposal to perform the contract, cope with any additional needs required by the contracting authority/entity as a result of a crisis or carry out the maintenance, modernisation or adaptation of the supplies covered by the contract;
- (i) with regard to the products to be supplied, provision of:
- (i) samples, descriptions and/or photographs, the authenticity of which must be certified if the contracting authority/entity so requests;
- (ii) certificates drawn up by official quality control institutes or agencies of recognised competence attesting the conformity of products, clearly identified by references to specifications or standards;
- (j) in the case of contracts involving, entailing and/or containing classified information, evidence of the ability to process, store and transmit such information at the level of protection required by the contracting authority/entity.

In the absence of harmonisation at Community level of national security clearance systems, Member States may provide that this evidence has to comply with the relevant provisions of their respective national laws on security clearance. Member States shall recognise security clearances which they consider equivalent to those issued in accordance with their national law, notwithstanding the possibility to conduct and take into account further investigations of their own, if considered necessary.

The contracting authority/entity may, where appropriate, grant candidates which do not yet hold security clearance additional time to obtain such clearance. In this case, it shall indicate this possibility and the time-limit in the contract notice.

The contracting authority/entity may ask the national security authority of the candidate's Member State or the security authority designated by that Member State to check the conformity of the premises and facilities that may be used, the industrial and administrative procedures that will be followed, the methods for managing information and/or the situation of staff likely to be employed to carry out the contract.

2. An economic operator may, where appropriate and for a particular contract, rely on the capacities of other entities, regardless of the legal nature of the links which it has with them. It shall in that case prove to the contracting authority/entity that it will have at its disposal the resources necessary for the execution of the contract, for example by producing an undertaking by those entities to put the necessary resources at the disposal of the economic operator.

3. Under the same conditions, a group of economic operators as referred to in Article 5 may rely on the abilities of participants in the group or of other entities.

4. In procedures for awarding contracts having as their object supplies requiring siting or installation work, the provision of services and/or the execution of works, the ability of economic operators to provide the service or to execute the installation or the work may be evaluated in particular with regard to their skills, efficiency, experience and reliability.

5. The contracting authority/entity shall specify in the notice which of the references referred to in the first paragraph it has chosen and which other references must be provided.

6. If, for any valid reason, the economic operator is unable to provide the references requested by the contracting authority/entity, it may prove its technical and/or professional ability by any other document which the contracting authority/entity considers appropriate.

#### Article 43

### Quality management systems standards

Should they require the production of certificates drawn up by independent accredited bodies attesting the compliance of the economic operator with certain quality management systems standards, contracting authorities/entities shall refer to quality management systems based on the relevant European standards certified by independent accredited bodies conforming to the European standards concerning accreditation and certification. They shall recognise equivalent certificates from independent accredited bodies established in other Member States. They shall also accept other evidence of equivalent quality management systems from economic operators.

#### Article 44

### Environmental management standards

Should contracting authorities/entities, in the cases referred to in Article 42(1)(f), require the production of certificates drawn up by independent bodies attesting the compliance of the economic operator with certain environmental management standards, they shall refer to the Community Eco-Management and Audit Scheme (EMAS) or to environmental management standards based on the relevant European or international standards certified by bodies conforming to Community law or the relevant European or international standards concerning certification. They shall recognise equivalent certificates from bodies established in other Member States. They shall also accept other evidence of equivalent environmental management measures from economic operators.

#### Article 45

### Additional documentation and information

The contracting authority/entity may invite economic operators to supplement or clarify the certificates and documents submitted pursuant to Articles 39 to 44.

#### Article 46

### Official lists of approved economic operators and certification by bodies established under public or private law

1. Member States may introduce either official lists of approved contractors, suppliers or service providers or certification by certification bodies established under public or private law.

Member States shall adapt the conditions for registration on these lists and for the issue of certificates by certification bodies to the provisions of Article 39(1) and (2)(a) to (d) and (h), Article 40, Article 41(1), (4) and (5), Article 42(1)(a) to (i), (2) and (4), Article 43 and, where appropriate, Article 44.

Member States shall also adapt them to Article 41(2) and Article 42(2) as regards applications for registration submitted by economic operators belonging to a group and claiming resources made available to them by the other companies in the group. In such a case, these operators must prove to the authority establishing the official list that they will have these resources at their disposal throughout the period of validity of the certificate attesting to their being registered in the official list, and that throughout the same period these companies must continue to fulfil the qualitative selection requirements laid down in the Articles referred to in the second subparagraph on which operators rely for their registration.

2. Economic operators registered on the official lists or having a certificate may, for each contract, submit to the contracting authority/entity a certificate of registration issued by the competent authority or the certificate issued by the competent certification body. The certificates shall state the references which enabled them to be registered in the list or to obtain certification and the classification given in that list.

3. Certified registration on official lists by the competent authorities or a certificate issued by the certification body shall not, for the purposes of the contracting authorities/entities of other Member States, constitute a presumption of suitability except as regards Article 39(1) and (2)(a) to (d) and (h), Article 40, Article 41(1)(b) and (c) and Article 42(1)(a)(i) and (b) to (g) in the case of contractors, Article 42(1)(a)(ii), (b) to (e) and (i) in the case of suppliers and Article 42(1)(a)(ii), (b) to (e) and (g) in the case of service providers.

4. Information which can be deduced from registration on official lists or certification may not be questioned without justification. With regard to the payment of social security contributions and taxes, an additional certificate may be required of any registered economic operator whenever a contract is offered.

The contracting authorities/entities of other Member States shall apply paragraph 3 and the first subparagraph of this paragraph only to economic operators established in the Member State holding the official list.

5. For any registration of economic operators of other Member States in an official list or for their certification by the bodies referred to in paragraph 1, no further proof or statement can be required other than those requested of national economic operators and, in any event, only those provided for under Articles 39 to 43 and, where appropriate, Article 44.

However, economic operators from other Member States may not be obliged to undergo such registration or certification in order to participate in a contract. Contracting authorities/entities shall recognise equivalent certificates from bodies established in other Member States. They shall also accept other equivalent means of proof.

6. Economic operators may apply at any time to be registered on an official list or for a certificate to be issued. They must be informed within a reasonably short period of time of the decision of the authority drawing up the list or of the competent certification body.

7. The certification bodies referred to in paragraph 1 shall be bodies complying with European certification standards.

8. Member States which have official lists or certification bodies as referred to in paragraph 1 shall be obliged to inform the Commission and the other Member States of the address of the body to which applications should be sent.

### Section 3

#### Award of the contract

##### Article 47

#### Contract award criteria

1. Without prejudice to national laws, regulations or administrative provisions concerning the remuneration of certain services, the criteria on which the contracting authorities/entities shall base the award of contracts shall be either:

(a) when the award is made to the most economically advantageous tender from the point of view of the contracting authority/entity, various criteria linked to the subject-matter of the contract in question: for example, quality, price, technical merit, functional characteristics, environmental characteristics, running costs, lifecycle costs, cost-effectiveness, after-sales service and technical assistance, delivery date and delivery period or period of completion, security of supply, interoperability and operational characteristics; or

(b) the lowest price only.

2. Without prejudice to the third subparagraph, in the case referred to in paragraph 1(a) the contracting authority/entity shall specify in the contract documentation (contract notices, contract documents, descriptive documents or supporting documents) the relative weighting which it gives to each of the criteria chosen to determine the most economically advantageous tender.

The weightings can be expressed by providing for a range with an appropriate maximum spread.

Where, in the opinion of the contracting authority/entity, weighting is not possible for demonstrable reasons, the contracting authority/entity shall indicate in the contract documentation (contract notices, contract documents, descriptive documents or supporting documents) the criteria in descending order of importance.

##### Article 48

#### Use of electronic auctions

1. Member States may provide that contracting authorities/entities may use electronic auctions.

2. In restricted and negotiated procedures with publication of a contract notice, the contracting authorities/entities may decide that the award of a contract shall be preceded by an electronic auction when the contract specifications can be established with precision.

In the same circumstances, an electronic auction may be held on the reopening of competition among the parties to a framework agreement as provided for in the second indent of the second subparagraph of Article 29(4).

The electronic auction shall be based:

— solely on price, where the contract is awarded to the lowest price; or,

— on price and/or on the new values of the features of the tenders indicated in the contract documents, where the contract is awarded to the most economically advantageous tender,

3. Contracting authorities/entities which decide to hold an electronic auction shall state that fact in the contract notice.

The contract documents shall include, *inter alia*, the following details:

(a) the features, the values for which will be the subject of electronic auction, provided that such features are quantifiable and can be expressed in figures or percentages;

(b) any limitations on the values which may be submitted, as they result from the specifications relating to the subject of the contract;

- (c) the information which will be made available to tenderers in the course of the electronic auction and, where appropriate, when it will be made available to them;
- (d) the relevant information concerning the electronic auction process;
- (e) the conditions under which tenderers will be able to bid and, in particular, the minimum differences which will, where appropriate, be required when bidding;
- (f) the relevant information concerning the electronic equipment used and the arrangements and technical specifications for connection.

4. Before proceeding with an electronic auction, contracting authorities/entities shall make a full initial evaluation of the tenders in accordance with the award criterion/criteria set and with the weighting fixed for them.

All tenderers which have submitted admissible tenders shall be invited simultaneously by electronic means to submit new prices and/or new values; the invitation shall contain all relevant information concerning individual connection to the electronic equipment being used and shall state the date and time of the start of the electronic auction. The electronic auction may take place in a number of successive phases. The electronic auction may not start sooner than two working days after the date on which invitations are sent out.

5. When the contract is to be awarded on the basis of the most economically advantageous tender, the invitation shall be accompanied by the outcome of a full evaluation of the relevant tenderer, carried out in accordance with the weighting provided for in the first subparagraph of Article 47(2).

The invitation shall also state the mathematical formula to be used in the electronic auction to determine automatic re-rankings on the basis of the new prices and/or new values submitted. That formula shall incorporate the weighting of all the criteria fixed to determine the most economically advantageous tender, as indicated in the contract notice or in the specifications; for that purpose, any ranges shall, however, be reduced in advance to a specified value.

Where variants are authorised, a separate formula shall be provided for each variant.

6. Throughout each phase of an electronic auction, the contracting authorities/entities shall instantaneously communicate to all tenderers at least sufficient information to enable them to ascertain their relative rankings at any moment. They may also communicate other information concerning other prices or values submitted, provided that that is stated in the contract documents. They may also at any time announce the number of participants in that phase of the auction. In no case, however, may they disclose the identities of the tenderers during any phase of an electronic auction.

7. Contracting authorities/entities shall close an electronic auction in one or more of the following manners:

- (a) in accordance with the date and time fixed in advance, as indicated in the invitation to take part in the auction;
- (b) when they receive no more new prices or new values which meet the requirements concerning minimum differences. In that event, the contracting authorities/entities shall state in the invitation to take part in the auction the time which they will allow to elapse after receiving the last submission before closing the electronic auction;
- (c) when the phases in the auction, fixed in the invitation to take part in the auction, have been completed.

When the contracting authorities/entities decide to close an electronic auction in accordance with point (c), possibly in combination with the arrangements laid down in point (b), the invitation to take part in the auction shall indicate the timetable for each phase of the auction.

8. After closing an electronic auction, contracting authorities/entities shall award the contract in accordance with Article 47 on the basis of the results of the electronic auction.

Contracting authorities/entities may not have improper recourse to electronic auctions, nor may they use them in such a way as to prevent, restrict or distort competition or to change the subject-matter of the contract, as put up for tender in the published contract notice and defined in the contract documents.

#### Article 49

#### Abnormally low tenders

1. If, for a given contract, tenders appear to be abnormally low in relation to the goods, works or services, the contracting authority/entity shall, before it rejects those tenders, request in writing details of the constituent elements of the tender which it considers relevant.

Those details may relate in particular to:

- (a) the economics of the construction method, manufacturing process or services provided;
- (b) the technical solutions chosen and/or any exceptionally favourable conditions available to the tenderer for the execution of the work or for the supply of the goods or services;

- (c) the originality of the work, supplies or services proposed by the tenderer;
- (d) compliance with the provisions relating to employment protection and working conditions in force at the place where the work, service or supply is to be performed;
- (e) the possibility of the tenderer obtaining State aid.

2. The contracting authority/entity shall verify those constituent elements by consulting the tenderer, taking account of the evidence supplied.

3. Where a contracting authority/entity establishes that a tender is abnormally low because the tenderer has obtained State aid, the tender can be rejected on that ground alone only after consultation with the tenderer where the latter is unable to prove, within a sufficient time-limit fixed by the contracting authority/entity, that the aid in question was granted legally. Where the contracting authority/entity rejects a tender in those circumstances, it shall inform the Commission thereof.

### TITLE III

#### RULES APPLICABLE TO SUBCONTRACTING

##### CHAPTER I

#### ***Subcontracts awarded by successful tenderers which are not contracting authorities/entities***

##### *Article 50*

#### **Scope**

1. Where, in accordance with Article 21(3) and (4), this Title applies, Member States shall take the necessary measures to ensure that successful tenderers which are not contracting authorities/entities apply the rules set out in Articles 51 to 53 when they award subcontracts to third parties.

2. For the purposes of paragraph 1, groups of undertakings which have been formed to obtain the contract, or undertakings related to them, shall not be considered third parties.

The tenderer shall include the exhaustive list of such undertakings in the tender. That list shall be updated following any change in the relationship between the undertakings.

##### *Article 51*

#### **Principles**

The successful tenderer shall act transparently and treat all potential subcontractors in an equal and non-discriminatory way.

##### *Article 52*

#### **Thresholds and rules on advertising**

1. When a successful tenderer which is not a contracting authority/entity awards a subcontract which has a value, excluding VAT, estimated not to be lower than the thresholds laid down in Article 8, it shall make known its intention by the way of a notice.

2. Subcontract notices shall contain the information referred to in Annex V and any other information deemed useful by the successful tenderer, if necessary with the approval of the contracting authority/entity.

Subcontract notices shall be drawn up in accordance with the standard form adopted by the Commission in accordance with the advisory procedure referred to in Article 67(2).

3. Subcontract notices shall be published in accordance with Article 32(2) to (5).

4. A subcontract notice shall not be required when a subcontract meets the conditions of Article 28.

5. Successful tenderers may publish, in accordance with Article 32, subcontract notices for which advertising is not required.

6. Member States may also provide that the successful tenderer may fulfil the subcontracting requirement set out in Article 21(3) or (4) by awarding subcontracts on the basis of a framework agreement concluded in accordance with the rules set out in Articles 51 and 53 and in paragraphs 1 to 5 of this Article.

Subcontracts based on such a framework agreement shall be awarded within the limits of the terms laid down in the framework agreement. They may only be awarded to economic operators that were originally party to the framework agreement. When awarding contracts, the parties shall in all circumstances propose terms consistent with those of the framework agreement.

The term of a framework agreement may not exceed seven years, except in exceptional circumstances determined by taking into account the expected service life of any delivered items, installations or systems, and the technical difficulties which a change of supplier may cause.

Framework agreements may not be used improperly or in such a way as to prevent, restrict or distort competition.

7. For the award of subcontracts which have a value, excluding VAT, estimated to be less than the thresholds laid down in Article 8, successful tenderers apply the principles of the Treaty regarding transparency and competition.

8. Article 9 shall apply to the calculation of the estimated value of subcontracts.

#### Article 53

### Criteria for qualitative selection of subcontractors

In the subcontract notice, the successful tenderer shall indicate the criteria for qualitative selection prescribed by the contracting authority/entity, as well as any other criteria it will apply for the qualitative selection of subcontractors. All these criteria shall be objective, non-discriminatory and consistent with the criteria applied by the contracting authority/entity for the selection of the tenderers for the main contract. The capabilities required must be directly related to the subject of the subcontract, and the levels of ability required must be commensurate with it.

The successful tenderer shall not be required to subcontract if it proves to the satisfaction of the contracting authority/entity that none of the subcontractors participating in the competition or their proposed bids meet the criteria indicated in the subcontract notice and thereby would prevent the successful tenderer from fulfilling the requirements set out in the main contract.

#### CHAPTER II

### *Subcontracts awarded by successful tenderers which are contracting authorities/entities*

#### Article 54

### Rules to be applied

Where successful tenderers are contracting authorities/entities, they shall comply with the provisions on main contracts laid down in Titles I and II when they award subcontracts.

#### TITLE IV

### RULES TO BE APPLIED TO REVIEWS

#### Article 55

### Scope and availability of review procedures

1. The review procedures provided for in this Title apply to the contracts referred to in Article 2, subject to the exceptions provided for in Articles 12 and 13.

2. Member States shall take the measures necessary to ensure that decisions taken by the contracting authorities/entities may be reviewed effectively and, in particular, as rapidly as possible in accordance with the conditions set out in Articles 56 to 62, on the grounds that such decisions have infringed Community law in the field of procurement or national rules transposing that law.

3. Member States shall ensure that there is no discrimination between undertakings claiming harm in the context of a procedure for the award of a contract as a result of the distinction made in this Title between national rules implementing Community law and other national rules.

4. Member States shall ensure that review procedures are available, under detailed rules which Member States may establish, at least to any person having or having had an interest in obtaining a particular contract who has been or risks being harmed by an alleged infringement.

5. Member States may require that the person wishing to use a review procedure has notified the contracting authority/entity of the alleged infringement and of his intention to seek review, provided that this does not affect the standstill period in accordance with Article 57(2) or any other time-limits for applying for review in accordance with Article 59.

6. Member States may require that the person concerned first seek review with the contracting authority/entity. In that case, Member States shall ensure that the submission of such an application for review results in immediate suspension of the possibility to conclude the contract.

Member States shall decide on the appropriate means of communication, including fax or electronic means, to be used for the application for review provided for in the first subparagraph.

The suspension referred to in the first subparagraph shall not end before the expiry of a period of at least 10 calendar days with effect from the day following the date on which the contracting authority/entity has sent a reply if fax or electronic means are used, or, if other means of communication are used, before the expiry of either at least 15 calendar days with effect from the day following the date on which the contracting authority/entity has sent a reply, or at least 10 calendar days with effect from the day following the date of the receipt of a reply.

#### Article 56

### Requirements for review procedures

1. Member States shall ensure that the measures taken concerning the review procedures specified in Article 55 include provision for powers:

- (a) to take, at the earliest opportunity and by way of interlocutory procedures, interim measures with the aim of correcting the alleged infringement or preventing further injury to the interests concerned, including measures to suspend or to ensure the suspension of the procedure for the award of a contract or the implementation of any decision taken by the contracting authority/entity, and to set aside or ensure the setting aside of decisions taken unlawfully, including the removal of discriminatory technical, economic or financial specifications in the invitation to tender, the contract documents or in any other document relating to the contract award procedure in question; or
- (b) to take, at the earliest opportunity, if possible by way of interlocutory procedures and if necessary by a final procedure on the substance, measures other than those provided for in point (a) with the aim of correcting any identified infringement and preventing injury to the interests concerned; in particular, making an order for the payment of a particular sum, in cases where the infringement has not been corrected or prevented.

In both the above cases, the powers provided for shall include the power to award damages to persons injured by the infringement.

2. The powers specified in paragraph 1 and Articles 60 and 61 may be conferred on separate bodies responsible for different aspects of the review procedure.

3. When a body of first instance, which is independent of the contracting authority/entity, reviews a contract award decision, Member States shall ensure that the contracting authority/entity cannot conclude the contract before the review body has made a decision on the application either for interim measures or for review. The suspension shall end no earlier than the expiry of the standstill period referred to in Article 57(2) and Article 60(4) and (5).

4. Except where provided for in paragraph 3 of this Article and Article 55(6), review procedures need not necessarily have an automatic suspensive effect on the contract award procedures to which they relate.

5. Member States may provide that the body responsible for review procedures may take into account the probable consequences of interim measures for all interests likely to be harmed, as well as the public interest, in particular defence and/or security interests, and may decide not to grant such measures when their negative consequences could exceed their benefits.

A decision not to grant interim measures shall not prejudice any other claim of the person seeking such measures.

6. Member States may provide that where damages are claimed on the grounds that a decision was taken unlawfully, the contested decision must first be set aside by a body having the necessary powers.

7. Except where provided for in Articles 60 to 62, the effects of the exercise of the powers referred to in paragraph 1 of this Article on a contract concluded subsequent to its award shall be determined by national law.

Furthermore, except where a decision must be set aside prior to the award of damages, a Member State may provide that, after the conclusion of a contract in accordance with Article 55(6), paragraph 3 of this Article or Articles 57 to 62, the powers of the body responsible for review procedures shall be limited to awarding damages to any person harmed by an infringement.

8. Member States shall ensure that decisions taken by bodies responsible for review procedures can be effectively enforced.

9. Where bodies responsible for review procedures are not judicial in character, written reasons for their decisions shall always be given. Furthermore, in such a case, provision must be made to guarantee procedures whereby any allegedly illegal measure taken by the review body or any alleged defect in the exercise of the powers conferred on it can be the subject of judicial review or review by another body which is a court or tribunal within the meaning of Article 234 of the Treaty and independent of both the contracting authority/entity and the review body.

The members of such an independent body shall be appointed and leave office under the same conditions as members of the judiciary as regards the authority responsible for their appointment, their period of office, and their removal. At least the President of this independent body shall have the same legal and professional qualifications as members of the judiciary. The decisions taken by the independent body shall, by means determined by each Member State, be legally binding.

10. Member States shall ensure that the bodies responsible for review procedures guarantee an adequate level of confidentiality of classified information or other information contained in the files transmitted by the parties, and act in conformity with defence and/or security interests throughout the procedure.

To this end, Member States may decide that a specific body has sole jurisdiction for the review of contracts in the fields of defence and security.

In any case, Member States may provide that only the members of review bodies personally authorised to deal with classified information may examine applications for review involving such information. They may also impose specific security measures concerning the registration of applications for review, the reception of documents and the storage of files.

Member States shall determine how review bodies are to reconcile the confidentiality of classified information with respect for the rights of the defence, and, in the case of a judicial review or of a review by a body which is a court or tribunal within the meaning of Article 234 of the Treaty, shall do so in such a way that the procedure complies, as a whole, with the right to a fair trial.

#### Article 57

##### Standstill period

1. Member States shall ensure that the persons referred to in Article 55(4) have sufficient time for effective review of the contract award decisions taken by contracting authorities/entities, by adopting the necessary provisions respecting the minimum conditions set out in paragraph 2 of this Article and in Article 59.

2. A contract may not be concluded following the decision to award a contract falling within the scope of this Directive before the expiry of a period of at least 10 calendar days with effect from the day following the date on which the contract award decision is sent to the tenderers and candidates concerned if fax or electronic means are used or, if other means of communication are used, before the expiry of a period of either at least 15 calendar days with effect from the day following the date on which the contract award decision is sent to the tenderers and candidates concerned or at least 10 calendar days with effect from the day following the date of the receipt of the contract award decision.

Tenderers shall be deemed to be concerned if they have not yet been definitively excluded. An exclusion is definitive if it has been notified to the tenderers concerned and either has been considered lawful by an independent review body or can no longer be subject to a review procedure.

Candidates shall be deemed to be concerned if the contracting authority/entity has not made available information about the rejection of their application before the notification of the contract award decision to the tenderers concerned.

The communication of the award decision to each tenderer and candidate concerned shall be accompanied by the following:

- a summary of the relevant reasons as set out in Article 35(2), subject to Article 35(3), and,

- a precise statement of the exact standstill period applicable pursuant to the provisions of national law transposing this paragraph,

#### Article 58

##### Derogations from the standstill period

Member States may provide that the periods referred to in Article 57(2) do not apply in the following cases:

- (a) where this Directive does not require prior publication of a contract notice in the *Official Journal of the European Union*;
- (b) where the only tenderer concerned within the meaning of Article 57(2) is the one which is awarded the contract and there are no candidates concerned;
- (c) in the case of a contract based on a framework agreement as provided for in Article 29.

If this derogation is invoked, Member States shall ensure that the contract is ineffective in accordance with Articles 60 and 62 where:

- there is an infringement of the second indent of the second subparagraph of Article 29(4), and,
- the contract value is estimated to be equal to or to exceed the thresholds set out in Article 8,

#### Article 59

##### Time-limits for applying for review

Where a Member State provides that any application for review of a decision of a contracting authority/entity taken in the context of, or in relation to, a contract award procedure falling within the scope of this Directive must be made before the expiry of a specified period, this period shall be at least 10 calendar days with effect from the day following the date on which the decision of the contracting authority/entity is sent to the tenderer or candidate if fax or electronic means are used or, if other means of communication are used, this period shall be either at least 15 calendar days with effect from the day following the date on which the decision of the contracting authority/entity is sent to the tenderer or candidate or at least 10 calendar days with effect from the day following the date of the receipt of the decision of the contracting authority/entity. The communication of the decision of the contracting authority/entity to each tenderer or candidate shall be accompanied by a summary of the relevant reasons. In the case of an application for review concerning decisions referred to in Article 56(1)(b) that are not subject to a specific notification, the time period shall be at least 10 calendar days from the date of the publication of the decision concerned.

## Article 60

**Ineffectiveness**

1. Member States shall ensure that a contract is considered ineffective by a review body independent of the contracting authority/entity or that its ineffectiveness is the result of a decision of such a review body in any of the following cases:

- (a) where the contracting authority/entity has awarded a contract without prior publication of a contract notice in the *Official Journal of the European Union* without this being permissible in accordance with this Directive;
- (b) in the case of an infringement of Article 55(6), Article 56(3) or Article 57(2), where this infringement has deprived the tenderer applying for review of the possibility to pursue pre-contractual remedies where such an infringement is combined with another infringement of Titles I or II, if that infringement has affected the chances of the tenderer applying for a review to obtain the contract;
- (c) in the cases referred to in the second subparagraph of Article 58(c), where Member States have invoked the derogation from the standstill period for contracts based on a framework agreement.

2. The consequences of a contract being considered ineffective shall be provided for by national law. National law may provide for the retroactive cancellation of all contractual obligations or limit the scope of the cancellation to those obligations which still have to be performed. In the latter case, Member States shall provide for the application of alternative penalties within the meaning of Article 61(2).

3. Member States may provide that the review body independent of the contracting authority/entity may not consider a contract ineffective, even though it has been awarded illegally on the grounds mentioned in paragraph 1, if the review body finds, after having examined all relevant aspects, that overriding reasons relating to a general interest, first and foremost in connection with defence and/or security interests, require that the effects of the contract should be maintained.

Economic interests in the effectiveness of the contract may only be considered as overriding reasons relating to a general interest within the meaning of the first subparagraph, if ineffectiveness would lead to disproportionate consequences.

However, economic interests directly linked to the contract concerned shall not constitute overriding reasons relating to a general interest within the meaning of the first subparagraph. Economic interests directly linked to the contract include, *inter alia*, the costs resulting from the delay in the execution of the

contract, the costs resulting from the launching of a new procurement procedure, the costs resulting from the change of the economic operator performing the contract and the costs of legal obligations resulting from the ineffectiveness.

In any event, a contract may not be considered ineffective if the consequences of this ineffectiveness would seriously endanger the very existence of a wider defence or security programme which is essential for a Member State's security interests.

In all the abovementioned cases, Member States shall provide for alternative penalties within the meaning of Article 61(2), which shall be applied instead.

4. Member States shall provide that paragraph 1(a) does not apply where:

- the contracting authority/entity considers that the award of a contract without prior publication of a contract notice in the *Official Journal of the European Union* is permissible in accordance with this Directive,
- the contracting authority/entity has published in the *Official Journal of the European Union* a notice as described in Article 64 expressing its intention to conclude the contract, and,
- the contract has not been concluded before the expiry of a period of at least 10 calendar days with effect from the day following the date of the publication of this notice,

5. Member States shall provide that paragraph 1(c) does not apply where:

- the contracting authority/entity considers that the award of a contract is in accordance with the second indent of the second subparagraph of Article 29(4),
- the contracting authority/entity has sent a contract award decision, together with a summary of reasons as referred to in the first indent of the fourth subparagraph of Article 57(2), to the tenderers concerned, and,
- the contract has not been concluded before the expiry of a period of at least 10 calendar days with effect from the day following the date on which the contract award decision is sent to the tenderers concerned if fax or electronic means are used or, if other means of communications are used, before the expiry of a period of either at least 15 calendar days with effect from the day following the date on which the contract award decision is sent to the tenderers concerned or at least 10 calendar days with effect from the day following the date of the receipt of the contract award decision.

## Article 61

**Infringements of this Title and alternative penalties**

1. In the case of an infringement of Article 55(6), Article 56(3) or Article 57(2) which is not covered by Article 60(1)(b), Member States shall provide for ineffectiveness in accordance with Article 60(1) to (3), or for alternative penalties. Member States may provide that the review body independent of the contracting authority/entity shall decide, after having assessed all relevant aspects, whether the contract should be considered ineffective or whether alternative penalties should be imposed.

2. Alternative penalties must be effective, proportionate and dissuasive. Alternative penalties shall be:

- the imposition of fines on the contracting authority/entity, or,
- the shortening of the duration of the contract,

Member States may confer on the review body broad discretion to take into account all the relevant factors, including the seriousness of the infringement, the behaviour of the contracting authority/entity and, in the cases referred to in Article 60(2), the extent to which the contract remains in force.

The award of damages does not constitute an appropriate penalty for the purposes of this paragraph.

## Article 62

**Time-limits**

1. Member States may provide that the application for review in accordance with Article 60(1) must be made:

- (a) before the expiry of at least 30 calendar days with effect from the day following the date on which:
  - the contracting authority/entity published a contract award notice in accordance with Articles 30(3), 31 and 32, provided that this notice includes justification of the decision of the contracting authority/entity to award the contract without prior publication of a contract notice in the *Official Journal of the European Union*, or
  - the contracting authority/entity informed the tenderers and candidates concerned of the conclusion of the contract, provided that this information contains a summary of the relevant reasons as set out in Article 35(2), subject to Article 35(3). This option also applies to the cases referred to in Article 58(c); and

(b) in any case, before the expiry of a period of at least 6 months with effect from the day following the date of the conclusion of the contract.

2. In all other cases, including applications for a review in accordance with Article 61(1), the time-limits for the application for a review shall be determined by national law, subject to Article 59.

## Article 63

**Corrective mechanism**

1. The Commission may invoke the procedure provided for in paragraphs 2 to 5 when, prior to a contract being concluded, it considers that a serious infringement of Community law in the field of procurement has been committed during a contract award procedure falling within the scope of this Directive.

2. The Commission shall notify the Member State concerned of the reasons which have led it to conclude that a serious infringement has been committed and request its correction by appropriate means.

3. Within 21 calendar days of receipt of the notification referred to in paragraph 2, the Member State concerned shall communicate to the Commission:

- (a) its confirmation that the infringement has been corrected;
- (b) a reasoned submission as to why no correction has been made; or
- (c) a notice to the effect that the contract award procedure has been suspended either by the contracting authority/entity on its own initiative or on the basis of the powers specified in Article 56(1)(a).

4. A reasoned submission communicated pursuant to paragraph 3(b) may rely among other matters on the fact that the alleged infringement is already the subject of judicial or other review proceedings or of a review as referred to in Article 56(9). In such a case, the Member State shall inform the Commission of the result of those proceedings as soon as it becomes known.

5. Where notice has been given that a contract award procedure has been suspended in accordance with paragraph 3(c), the Member State concerned shall notify the Commission when the suspension is lifted or another contract procedure relating in whole or in part to the same subject-matter is begun. That new notification shall confirm that the alleged infringement has been corrected or include a reasoned submission as to why no correction has been made.

## Article 64

**Content of a notice for voluntary ex ante transparency**

The notice referred to in the second indent of Article 60(4), the format of which shall be adopted by the Commission in accordance with the advisory procedure referred to in Article 67(2), shall contain the following information:

- (a) the name and contact details of the contracting authority/entity;
- (b) a description of the object of the contract;
- (c) a justification of the decision of the contracting authority/entity to award the contract without prior publication of a contract notice in the *Official Journal of the European Union*;
- (d) the name and contact details of the economic operator in favour of which a contract award decision has been taken; and
- (e) where appropriate, any other information deemed useful by the contracting authority/entity.

## TITLE V

**STATISTICAL OBLIGATIONS, EXECUTORY POWERS AND FINAL PROVISIONS**

## Article 65

**Statistical obligations**

In order to permit assessment of the results of applying this Directive, Member States shall forward to the Commission a statistical report, prepared in accordance with Article 66, addressing supply, services and works contracts awarded by contracting authorities/entities during the preceding year, by no later than 31 October of each year,

## Article 66

**Content of the statistical report**

The statistical report shall specify the number and value of contracts awarded, by Member State or third country of the successful tenderer. It shall address, separately, supply, services and works contracts.

The data referred to in the first paragraph shall be broken down by procedure used and shall specify, for each procedure, supplies, services and works identified by group of the CPV nomenclature.

Where contracts have been concluded in accordance with the negotiated procedure without publication of a contract notice, the data referred to in the first paragraph shall also be broken down by the circumstances referred to in Article 28.

The content of the statistical report shall be determined in accordance with the advisory procedure referred to in Article 67(2).

## Article 67

**Committee procedure**

1. The Commission shall be assisted by the Advisory Committee for Public Contracts set up by Article 1 of Council Decision 71/306/EEC <sup>(1)</sup> (the Committee).
2. Where reference is made to this paragraph, Articles 3 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.
3. Where reference is made to this paragraph, Article 5a(1) to (4) and Article 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

With regard to the revision of the thresholds laid down in Article 8, the time-limits laid down in Article 5a(3)(c), (4)(b) and (e) of Decision 1999/468/EC shall be set at four, two and six weeks respectively, in view of the time constraints resulting from the calculation and publication methods laid down in the second subparagraph of Article 69(1) and Article 69(3) of Directive 2004/17/EC.

4. Where reference is made to this paragraph, Article 5a(1), (2), (4) and (6) and Article 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

## Article 68

**Revision of thresholds**

1. At the same time as the revision of the thresholds laid down in Directive 2004/17/EC referred to in Article 69 thereof, the Commission shall also revise the thresholds laid down in Article 8 of this Directive by aligning:
  - (a) the threshold established in Article 8(a) of this Directive to the revised threshold laid down in Article 16(a) of Directive 2004/17/EC;
  - (b) the threshold established in Article 8(b) of this Directive to the revised threshold laid down in Article 16(b) of Directive 2004/17/EC.

Such revision and alignment, designed to amend non-essential elements of this Directive, shall be carried out in accordance with the regulatory procedure with scrutiny referred to in Article 67(3). On imperative grounds of urgency, the Commission may have recourse to the urgency procedure referred to in Article 67(4).

2. The value of the thresholds set pursuant to paragraph 1 in the national currencies of Member States which do not participate in the euro shall be aligned to the values of the thresholds laid down in Directive 2004/17/EC referred to in paragraph 1, calculated in accordance with the second subparagraph of Article 69(2) of Directive 2004/17/EC.

<sup>(1)</sup> OJ L 185, 16.8.1971, p. 15.

3. The revised thresholds referred to in paragraph 1 and their corresponding values in national currencies shall be published by the Commission in the *Official Journal of the European Union* at the beginning of the November following their revision.

#### Article 69

#### Amendments

1. In accordance with the advisory procedure referred to in Article 67(2), the Commission may amend:

- (a) the procedures for the drawing-up, transmission, receipt, translation, collection and distribution of the notices referred to in Article 30 and the statistical reports provided for in Article 65;
- (b) the procedure for sending and publishing the data referred to in Annex VI on grounds of technical progress or for administrative reasons;
- (c) the list of registers, declarations and certificates set out in Annex VII, when, on the basis of notifications from Member States, this proves necessary.

2. Acting in accordance with the regulatory procedure with scrutiny referred to in Article 67(3), the Commission may amend the following non-essential elements of this Directive:

- (a) the reference numbers in the CPV nomenclature set out in Annexes I and II, insofar as this does not change the material scope of this Directive, and the procedures for reference in the notices to particular headings in the CPV within the categories of services listed in those Annexes;
- (b) the technical details and characteristics of the devices for electronic receipt referred to in points (a), (f) and (g) of Annex VIII.

On imperative grounds of urgency, the Commission may have recourse to the urgency procedure referred to in Article 67(4).

#### Article 70

#### Amendment to Directive 2004/17/EC

The following Article shall be inserted in Directive 2004/17/EC:

'Article 22a

#### Contracts in the fields of defence and security

This Directive shall not apply to contracts to which Directive 2009/81/EC of the European Parliament and of the Council of 13 July 2009 on the coordination of procedures for the award of

certain works contracts, supply contracts and service contracts by contracting authorities or entities in the fields of defence and security (\*) applies, nor to contracts to which that Directive does not apply pursuant to Articles 8, 12 and 13 thereof.

(\*) OJ L 217, 20.8.2009, p. 76'.

#### Article 71

#### Amendment to Directive 2004/18/EC

Article 10 of Directive 2004/18/EC shall be replaced by the following:

'Article 10

#### Contracts in the fields of defence and security

Subject to Article 296 of the Treaty, this Directive shall apply to public contracts awarded in the fields of defence and security, with the exception of contracts to which Directive 2009/81/EC of the European Parliament and of the Council of 13 July 2009 on the coordination of procedures for the award of certain works contracts, supply contracts and service contracts by contracting authorities or entities in the fields of defence and security (\*) applies.

This Directive shall not apply to contracts to which Directive 2009/81/EC does not apply pursuant to Articles 8, 12 and 13 thereof.

(\*) OJ L 217, 20.8.2009, p. 76'.

#### Article 72

#### Transposition

1. By 21 August 2011, Member States shall adopt and publish the laws, regulations and administrative provisions necessary to comply with this Directive. They shall forthwith communicate to the Commission the text of those measures.

When Member States adopt these measures, they shall contain a reference to this Directive or shall be accompanied by such reference on the occasion of their official publication. Member States shall determine how such reference is to be made.

2. Member States shall communicate to the Commission the text of the main provisions of national law which they adopt in the field covered by this Directive.

#### Article 73

#### Review and reporting

1. By 21 August 2012, the Commission shall report on the measures taken by Member States with a view to the transposition of this Directive, and in particular Article 21 and Articles 50 to 54 thereof.

2. The Commission shall review the implementation of this Directive and report thereon to the European Parliament and the Council by 21 August 2016. It shall evaluate in particular whether, and to what extent, the objectives of this Directive have been achieved with regard to the functioning of the internal market and the development of a European defence equipment market and a European Defence Technological and Industrial Base, having regard, *inter alia*, to the situation of small and medium-sized enterprises. Where appropriate, the report shall be accompanied by a legislative proposal.

3. The Commission shall also review the application of Article 39(1), investigating in particular the feasibility of harmonising the conditions for the reinstatement of candidates or tenderers with prior convictions excluding them from participation in public procurements, and shall, if appropriate, bring forward, a legislative proposal to that effect.

*Article 74*

**Entry into force**

This Directive shall enter into force on the day following its publication in the *Official Journal of the European Union*.

*Article 75*

**Addressees**

This Directive is addressed to the Member States.

Done at Brussels, 13 July 2009.

*For the European Parliament*  
*The President*  
H.-G. PÖTTERING

*For the Council*  
*The President*  
E. ERLANDSSON

## ANNEX I

## Services referred to in Articles 2 and 15

Category No	Subject	CPV Reference No
1	Maintenance and repair services	50000000-5, from 50100000-6 to 50884000-5 (except from 50310000-1 to 50324200-4 and 50116510-9, 50190000-3, 50229000-6, 50243000-0) and from 51000000-9 to 51900000-1
2	Foreign military-aid-related services	75211300-1
3	Defence services, military defence services and civil defence services	75220000-4, 75221000-1, 75222000-8
4	Investigation and security services	From 79700000-1 to 79720000-7
5	Land transport services	60000000-8, from 60100000-9 to 60183000-4 (except 60160000-7, 60161000-4), and from 64120000-3 to 64121200-2
6	Air transport services of passengers and freight, except transport of mail	60400000-2, from 60410000-5 to 60424120-3 (except 60411000-2, 60421000-5), from 60440000-4 to 60445000-9 and 60500000-3
7	Transport of mail by land and by air	60160000-7, 60161000-4, 60411000-2, 60421000-5
8	Rail transport services	From 60200000-0 to 60220000-6
9	Water transport services	From 60600000-4 to 60653000-0, and from 63727000-1 to 63727200-3
10	Supporting and auxiliary transport services	From 63100000-0 to 63111000-0, from 63120000-6 to 63121100-4, 63122000-0, 63512000-1 and from 63520000-0 to 6370000-6
11	Telecommunication services	From 64200000-8 to 64228200-2, 72318000-7, and from 72700000-7 to 72720000-3
12	Financial services: Insurance services	From 66500000-5 to 66720000-3
13	Computer and related services	From 50310000-1 to 50324200-4, from 72000000-5 to 72920000-5 (except 72318000-7 and from 72700000-7 to 72720000-3), 79342410-4, 9342410-4
14	Research and development services <sup>(1)</sup> and evaluation tests	From 73000000-2 to 73436000-7
15	Accounting, auditing and bookkeeping services	From 79210000-9 to 79212500-8
16	Management consulting services <sup>(2)</sup> and related services	From 73200000-4 to 73220000-0, from 79400000-8 to 79421200-3 and 79342000-3, 79342100-4, 79342300-6, 79342320-2, 79342321-9, 79910000-6, 79991000-7 and 98362000-8
17	Architectural services; engineering services and integrated engineering services; urban planning and landscape engineering services; related scientific and technical consulting services; technical testing and analysis services	From 71000000-8 to 71900000-7 (except 71550000-8) and 79994000-8
18	Building-cleaning services and property management services	From 70300000-4 to 70340000-6 and from 90900000-6 to 90924000-0
19	Sewage and refuse disposal services; sanitation and similar services	From 90400000-1 to 90743200-9 (except 90712200-3), from 90910000-9 to 90920000-2 and 50190000-3, 50229000-6, 50243000-0
20	Training and simulation services in the fields of defence and security	80330000-6, 80600000-0, 80610000-3, 80620000-6, 80630000-9, 80640000-2, 80650000-5, 80660000-8

<sup>(1)</sup> Except research and development services referred to in Article 13(j).

<sup>(2)</sup> Except arbitration and conciliation services.

## ANNEX II

**Services referred to in Articles 2 and 16**

Category No	Subject	CPV Reference No
21	Hotel and restaurant services	From 55100000-1 to 55524000-9 and from 98340000-8 to 98341100-6
22	Supporting and auxiliary transport services	From 63000000-9 to 63734000-3 (except 63711200-8, 63712700-0, 63712710-3), from 63727000-1 to 63727200-3 and 98361000-1
23	Legal services	From 79100000-5 to 79140000-7
24	Personnel placement and supply services <sup>(1)</sup>	From 79600000-0 to 79635000-4 (except 79611000-0, 79632000-3, 79633000-0) and from 98500000-8 to 98514000-9
25	Health and social services	79611000-0 and from 85000000-9 to 85323000-9 (except 85321000-5, 85322000-2)
26	Other services	

<sup>(1)</sup> Except employment contracts.

## ANNEX III

**Definition of certain technical specifications referred to in Article 18**

For the purposes of this Directive, the following definitions shall apply:

1. (a) 'Technical specifications', in the case of works contracts: the totality of the technical prescriptions contained in particular in the tender documents, defining the characteristics required of a material, product or supply, which permits a material, a product or a supply to be described in a manner such that it fulfils the use for which it is intended by the contracting authority/entity. These characteristics shall include levels of environmental performance, design for all requirements (including accessibility for people with disabilities) and conformity assessment, performance, safety or dimensions, including the procedures concerning quality assurance, terminology, symbols, testing and test methods, packaging, marking and labelling and production processes and methods. They shall also include rules relating to design and costing, the test, inspection and acceptance conditions for works and techniques or methods of construction and all other technical conditions which the contracting authority/entity is in a position to prescribe, under general or specific regulations, in relation to the finished works and to the materials or parts which they involve;
  - (b) 'Technical specification', in the case of supply or service contracts: a specification in a document defining the required characteristics of a product or service, such as quality and environmental performance levels, design for all requirements (including accessibility for people with disabilities), and conformity-assessment, performance, use of the product, its safety or dimensions, including requirements relevant to the product as regards the name under which the product is sold, terminology, symbols, testing and test methods, packaging, marking and labelling, user instructions, production methods and procedures, as well as conformity assessment procedures;
  2. 'Standard': a technical specification approved by a recognised standardisation body for repeated or continuous application, compliance with which is not compulsory, from one of the following categories:
    - international standard: a standard adopted by an international standards organisation and made available to the general public,
    - European standard: a standard adopted by a European standardisation body and made available to the general public,
    - national standard: a standard adopted by a national standards organisation and made available to the general public,
  3. 'Defence standard': a technical specification the observance of which is not compulsory and which is approved by a standardisation body specialising in the production of technical specifications for repeated or continuous application in the field of defence;
  4. 'European technical approval': a favourable technical assessment of the fitness for use of a product for a specific purpose, based on fulfilment of the essential requirements for building works, by means of the inherent characteristics of the product and the defined conditions of application and use. European technical approvals are issued by an approval body designated for this purpose by the Member State;
  5. 'Common technical specification': a technical specification laid down in accordance with a procedure recognised by Member States which has been published in the *Official Journal of the European Union*;
  6. 'Technical reference': any product produced by European standardisation bodies, other than official standards, according to procedures adapted to developments in market needs.
-

## ANNEX IV

**Information to be included in the notices referred to in Article 30**

## NOTICE OF PUBLICATION OF A PRIOR INFORMATION NOTICE ON A BUYER PROFILE

1. Country of the contracting authority/entity
2. Name of the contracting authority/entity
3. Internet address of the 'buyer profile' (URL)
4. CPV nomenclature reference no(s)

## PRIOR INFORMATION NOTICE

1. The name, address, fax number and e-mail address of the contracting authority/entity and, if different, of the service from which additional information may be obtained and, in the case of services and works contracts, of the departments, e.g. the relevant governmental Internet site, from which information can be obtained concerning the general regulatory framework for taxes, environmental protection, employment protection and working conditions applicable in the place where the contract is to be performed.
2. Where appropriate, indication whether the contract is restricted to sheltered workshops, or whether its execution is restricted to the framework of protected job programmes.
3. In the case of works contracts: the nature and extent of the works and the place of execution; if the work is to be subdivided into several lots, the essential characteristics of those lots by reference to the work; if available, an estimate of the range of the cost of the proposed works; CPV nomenclature reference no(s).

In the case of supply contracts: the nature and quantity or value of the products to be supplied, CPV nomenclature reference no(s).

In the case of services contracts: the total value of the proposed purchases in each of the service categories, CPV nomenclature reference no(s).

4. Estimated date for initiating the award procedures in respect of the contract or contracts, in the case of service contracts by category.
5. Where appropriate, indicate whether a framework agreement is involved.
6. Where appropriate, other information.
7. Date of dispatch of the notice or of dispatch of the notice of publication of the prior information notice on the buyer profile.

## CONTRACT NOTICES

Restricted procedures, negotiated procedures with publication of a contract notice and competitive dialogues:

1. Name, address, telephone and fax number, e-mail address of the contracting authority/entity.
2. Where appropriate, indication whether the contract is restricted to sheltered workshops, or whether its execution is restricted to the framework of protected job programmes.
3.
  - (a) The award procedure chosen;
  - (b) Where appropriate, the reasons for use of the accelerated procedure (in restricted and negotiated procedures);
  - (c) Where appropriate, indicate whether a framework agreement is involved;
  - (d) Where appropriate, the holding of an electronic auction.

4. Form of the contract.
5. Place of execution/performance of the works, for delivery of products or of the provision of services.
6. (a) Works contracts:
  - nature and extent of the works and general nature of the work. Indication in particular of options concerning supplementary works, and, if known, the provisional timetable for recourse to these options as well as the number of possible renewals, if any. If the work or the contract is subdivided into several lots, the size of the different lots; CPV nomenclature reference no(s),
  - information concerning the purpose of the work or the contract where the latter also involves the drawing up of projects,
  - in the case of a framework agreement, indication also of the planned duration of the framework agreement, the estimated total value of the works for the entire duration of the framework agreement and, as far as possible, the value and the frequency of the contracts to be awarded.
- (b) Supply contracts:
  - nature of the products to be supplied, indicating in particular whether tenders are requested with a view to purchase, lease rental, hire or hire purchase or a combination of these, CPV nomenclature reference no(s). Quantity of products to be supplied, indicating in particular options concerning supplementary purchases and, if known, the provisional timetable for recourse to these options as well as the number of renewals, if any; CPV nomenclature reference no(s),
  - in the case of regular or renewable contracts during the course of a given period, indication also, if known, of the timetable for subsequent contracts for intended purchases of supplies,
  - in the case of a framework agreement, indication also of the planned duration of the framework agreement, the estimated total value of the supplies for the entire duration of the framework agreement and, as far as possible, the value and the frequency of the contracts to be awarded.
- (c) Service contracts:
  - category and description of the service. CPV nomenclature reference no(s). Quantity of services to be provided. Indication in particular of options concerning supplementary purchases and, if known, the provisional timetable for recourse to these options as well as the number of renewals, if any. In the case of renewable contracts over a given period, an estimate of the time frame, if known, for subsequent contracts for intended purchases of services.  
  
In the case of a framework agreement, indication also of the planned duration of the framework agreement, the estimated total value of the services for the entire duration of the framework agreement and, as far as possible, the value and the frequency of the contracts to be awarded,
  - indication of whether the execution of the service is reserved by law, regulation or administrative provision to a particular profession,  
  
Reference to the law, regulation or administrative provision,
  - indication of whether legal persons should indicate the names and professional qualifications of the staff to be responsible for the execution of the service,
7. If the contracts are subdivided into lots, indication of the possibility for economic operators of tendering for one, for several and/or for all the lots.
8. Admission or prohibition of variants.
9. Where applicable, indication of the percentage of the contract's global value which is required to be subcontracted to third parties through a tendering procedure (Article 21(4)).
10. Where applicable, selection criteria regarding the personal situation of subcontractors that may lead to their exclusion, and required information proving that they do not fall within the cases justifying exclusion. Information and any necessary formalities for assessment of the minimum economic and technical capacities required of the subcontractors. Minimum level(s) of capacities possibly required.

11. Time-limit for completion of works/supplies/services or duration of the works/supply/services contract. Where possible, time-limit by which works will begin or time-limit by which delivery of supplies or services will begin.
12. Where applicable, particular conditions to which the performance of the contract is subject.
13. (a) The final date for the receipt of requests to participate;  
(b) address to which they must be sent;  
(c) the language or languages in which they must be drawn up.
14. Where applicable, any deposits and guarantees required.
15. Main terms concerning financing and payment and/or references to the texts in which these are contained.
16. Where applicable, the legal form to be taken by the grouping of economic operators to which the contract is to be awarded.
17. Selection criteria regarding the personal situation of economic operators that may lead to their exclusion, and information required proving that they do not fall within the cases justifying exclusion. Selection criteria, information and any necessary formalities for assessment of the minimum economic and technical standards required of the economic operator. Minimum level(s) of standards possibly required.
18. In the case of framework agreements: the number and, where appropriate, proposed maximum number of economic operators which will be members of it and the duration of the framework agreement.
19. In the case of a competitive dialogue or a negotiated procedure with the publication of a contract notice, indication, if appropriate, of recourse to a staged procedure in order gradually to reduce the number of solutions to be discussed or tenders to be negotiated.
20. In the case of a restricted procedure, a negotiated procedure or a competitive dialogue, when recourse is had to the option of reducing the number of candidates to be invited to submit tenders, to engage in dialogue or to negotiate: minimum and, if appropriate, proposed maximum number of candidates and objective criteria to be used to choose that number of candidates.
21. Criteria referred to in Article 47 to be used for award of the contract: 'lowest price' or 'most economically advantageous tender'. Criteria representing the most economically advantageous tender as well as their weighting or the criteria in descending order of importance shall be mentioned where they do not appear in the specifications or, in the event of a competitive dialogue, in the descriptive document.
22. Where appropriate, date(s) of publication of the prior information notice in accordance with the technical specifications of publication indicated in Annex VI or statement that no such publication was made.
23. Date of dispatch of the notice.

#### CONTRACT AWARD NOTICE

1. Name and address of the contracting authority/entity.
2. Award procedure chosen. In the case of a negotiated procedure without prior publication of a contract notice (Article 28), justification.  
  
Works contracts: nature and extent of the services.  
  
Supply contracts: nature and quantity of products supplied, where appropriate, by the supplier; CPV nomenclature reference no(s).  
  
Service contracts: category and description of the service; CPV nomenclature reference no(s); quantity of services purchased.
4. Date of contract award.
5. Contract award criteria.

6. Number of tenders received.
  7. Name and address of the successful economic operators.
  8. Price or range of prices (minimum/maximum) paid.
  9. Value of the tender (tenders) retained or the highest tender and lowest tender taken into consideration for the contract award.
  10. Where appropriate, proportion of contract to be subcontracted to third parties and its value.
  11. If appropriate, the reasons for the framework agreement lasting more than seven years.
  12. Date of publication of the tender notice in accordance with the technical specifications for publication in Annex VI.
  13. Date of dispatch of this notice.
-

## ANNEX V

**Information to be included in the subcontract notices referred to in Article 52**

1. The name, address, fax number and e-mail address of the successful tenderer and, if different, of the service from which additional information may be obtained.
  2.
    - (a) Place of execution/performance of the works, for delivery of products or of the provision of services;
    - (b) nature, quantity and extent of the works and general nature of the work; CPV nomenclature reference no(s);
    - (c) nature of the products to be supplied, indicating whether tenders are requested with a view to purchase, lease rental, hire or hire purchase or a combination of these, CPV nomenclature reference no(s);
    - (d) category and description of service; CPV nomenclature reference no(s).
  3. Any time-limit for completion imposed.
  4. Name and address of the body from which the specifications and the additional documents may be requested.
  5.
    - (a) Time-limit for the receipt of applications to participate and/or the receipt of tenders;
    - (b) address to which they must be sent;
    - (c) language(s) in which they must be written.
  6. Any deposits or guarantees required.
  7. Objective criteria which will be applied for selection of the subcontractors related to their personal situation or the assessment of their bid.
  8. Any other information.
  9. Date of dispatch of the notice.
-

## ANNEX VI

**FEATURES CONCERNING PUBLICATION**

## 1. Publication of notices

- (a) The notices referred to in Articles 30 and 52 must be sent by the contracting authorities/entities or successful tenderers to the Publications Office of the European Union in the format referred to in Article 32. The prior information notices referred to in Article 30(1), first subparagraph, published on a buyer profile as described in point 2, must also use that format, as must the notice of such publication.

The notices referred to in Articles 30 and 52 must be published by the Office for Publications Office of the European Union or by the contracting authorities/entities in the case of a prior information notice published on a buyer profile in accordance with the first subparagraph of Article 30(1).

In addition, contracting authorities/entities may publish this information on the Internet on a 'buyer profile' as referred to in point 2;

- (b) the Office for Publications Office of the European Union shall give the contracting authority/entity the confirmation of publication referred to in Article 32(8).

## 2. Publication of supplementary information

The buyer profile may include prior information notices as referred to in Article 30(1), first subparagraph, information on ongoing invitations to tender, scheduled purchases, contracts concluded, procedures cancelled and any useful general information, such as a contact point, a telephone and fax number, a postal address and an e-mail address.

## 3. Format and procedures for sending notices electronically

The format and procedure for sending notices electronically are accessible at the Internet address '<http://simap.europa.eu>'.

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## ANNEX VII

REGISTERS <sup>(1)</sup>

## PART A

## Works contracts

The professional registers and corresponding declarations and certificates for each Member State are:

- in Belgium the 'Registre du Commerce'/Handelsregister',
- in Bulgaria, the 'Търговски регистър',
- in the Czech Republic, the 'obchodní rejstřík',
- in Denmark, the 'Erhvervs- og Selskabsstyrelsen',
- in Germany, the 'Handelsregister' and the 'Handwerksrolle',
- in Estonia, the 'Registrite ja Infosüsteemide Keskus',
- in Ireland, the contractor may be requested to provide a certificate from the Registrar of Companies or the Registrar of Friendly Societies or, if he is not so certified, a certificate stating that the person concerned has declared on oath that he is engaged in the profession in question in the country in which he is established, in a specific place under a given business name,
- in Greece, the 'Μητρώο Εργοληπτικών Επιχειρήσεων — ΜΕΕΠ' of the Ministry for Environment, Town and Country Planning and Public Works (Υ.Π.Ε.Χ.Ω.Δ.Ε),
- in Spain, the 'Registro Oficial de Licitadores y Empresas Clasificadas del Estado',
- in France, the 'Registre du commerce et des sociétés' and the 'Répertoire des métiers',
- in Italy, the 'Registro della Camera di commercio, industria, agricoltura e artigianato',
- in Cyprus, the contractor may be requested to provide a certificate from the 'Council for the Registration and Audit of Civil Engineering and Building Contractors (Συμβούλιο Εγγραφής και Ελέγχου Εργοληπτών Οικοδομικών και Τεχνικών Έργων)' in accordance with the Registration and Audit of Civil Engineering and Building Contractors Law,
- in Latvia, the 'Uzņēmumu reģistrs',
- in Lithuania, the 'Juridinių asmenų registras',
- in Luxembourg, the 'Registre aux firmes' and the 'Rôle de la Chambre des métiers',
- in Hungary, the 'Cégnyilvántartás', the 'egyéni vállalkozók jegyzői nyilvántartása',
- in Malta, the contractor obtains his 'numru ta' registrazzjoni tat-Taxxa tal-Valur Miżjud (VAT) u n-numru tal-licenzja ta' kummerċ', and, in the case of a partnership or company, the relevant registration number as issued by the Malta Financial Services Authority,
- in the Netherlands, the 'Handelsregister',
- in Austria, the 'Firmenbuch', the 'Gewerberegister', the 'Mitgliederverzeichnisse der Landeskammern',

<sup>(1)</sup> For the purposes of Article 40, 'registers' means those listed in this Annex and, where changes have been made at national level, the registers which have replaced them. This Annex is only indicative and does not prejudice the compatibility of these registers with Community law on the freedom of establishment and the freedom to provide services.

- in Poland, the 'Krajowy Rejestr Sądowy',
- in Portugal, the 'Instituto da Construção e do Imobiliário' (INCI),
- in Romania, the 'Registrul Comerțului',
- in Slovenia, the 'Sodni register' and the 'obrtni register',
- in Slovakia, the 'Obchodný register',
- in Finland, the 'Kaupparekisteri'/Handelsregistret',
- in Sweden, the 'aktiebolags-, handels- eller föreningsregistren',
- in the United Kingdom, the contractor may be requested to provide a certificate from the Registrar of Companies or, if he is not so certified, a certificate stating that the person concerned has declared on oath that he is engaged in the profession in question in the country in which he is established in a specific place under a given business name.

## PART B

### Supply contracts

The relevant professional and trade registers and declarations and certificates are:

- in Belgium the 'Registre du Commerce'/Handelsregister',
- in Bulgaria, the 'Търговски регистър',
- in the Czech Republic, the 'obchodní rejstřík',
- in Denmark, the 'Erhvervs- og Selskabsstyrelsen',
- in Germany, the 'Handelsregister' and the 'Handwerksrolle',
- in Estonia, the 'Registrite ja Infosüsteemide Keskus',
- in Greece, the 'Βιοτεχνικό ή Εμπορικό ή Βιομηχανικό Επιμελητήριο' and the 'Μητρώο Κατασκευαστών Αμυντικού Υλικού',
- in Spain, the 'Registro Mercantil' or, in the case of non-registered individuals, a certificate stating that the person concerned has declared on oath that he is engaged in the profession in question,
- in France, the 'Registre du commerce et des sociétés' and the 'Répertoire des métiers',
- in Ireland, the supplier may be requested to provide a certificate from the Registrar of Companies or the Registrar of Friendly Societies that he is certified as incorporated or registered or, if he is not so certified, a certificate stating that the person concerned has declared on oath that he is engaged in the profession in question in the country in which he is established, in a specific place under a given business name,
- in Italy, the 'Registro della Camera di commercio, industria, agricoltura e artigianato', and the 'Registro delle commissioni provinciali per l'artigianato',
- in Cyprus, the supplier may be requested to provide a certificate from the 'Registrar of Companies and Official Receiver' (Εφορος Εταιρειών και Επίσημος Παραλήπτης) or, if this is not the case, a certificate stating that the person concerned has declared on oath that he is engaged in the profession in question in the country in which he is established, in a specific place and under a given business name,
- in Latvia, the 'Uzņēmumu reģistrs',
- in Lithuania, the 'Juridinių asmenų registras',

- in Luxembourg, the 'Registre aux firmes' and the 'Rôle de la Chambre des métiers',
- in Hungary, the 'Cégnyilvántartás', the 'egyéni vállalkozók jegyzői nyilvántartása',
- in Malta: the supplier obtains his 'numru ta' registrazzjoni tat-Taxxa tal-Valur Miżjud (VAT) u n-numru tal-licenzja ta' kummerc', and, in the case of a partnership or company, the relevant registration number as issued by the Malta Financial Services Authority,
- in the Netherlands, the 'Handelsregister',
- in Austria, the 'Firmenbuch', the 'Gewerberegister', the 'Mitgliederverzeichnisse der Landeskammern',
- in Poland, the 'Krajowy Rejestr Sądowy',
- in Portugal, the 'Registo Nacional das Pessoas Colectivas',
- in Romania, the 'Registrul Comerțului',
- in Slovenia, the 'Sodni register' and the 'obrtni register',
- in Slovakia, the 'Obchodný register',
- in Finland, the 'Kaupparekisteri'/'Handelsregistret',
- in Sweden, the 'aktiebolags-, handels- eller föreningsregistren',
- in the United Kingdom, the supplier may be requested to provide a certificate from the Registrar of Companies stating that he is certified as incorporated or registered or, if he is not so certified, a certificate stating that the person concerned has declared on oath that he is engaged in the profession in a specific place under a given business name.

#### PART C

##### Service contracts

The relevant professional and trade registers and declarations and certificates are:

- in Belgium, the 'Registre du commerce/Handelsregister' and the 'Ordres professionnels/Beroepsorden',
- in Bulgaria, the 'Търговски регистър',
- in the Czech Republic, the 'obchodní rejstřík',
- in Denmark, the 'Erhvervs- og Selskabsstyrelsen',
- in Germany, the 'Handelsregister', the 'Handwerksrolle', the 'Vereinsregister', the 'Partnerschaftsregister' and the 'Mitgliedsverzeichnisse der Berufskammern der Länder',
- in Estonia, the 'Registrite ja Infosüsteemide Keskus',
- in Ireland, the service provider may be requested to provide a certificate from the Registrar of Companies or the Registrar of Friendly Societies or, if he is not so certified, a certificate stating that the person concerned has declared on oath that he is engaged in the profession in question in the country in which he is established, in a specific place under a given business name,
- in Greece, the service provider may be asked to provide a declaration on the exercise of the profession concerned made on oath before a notary; in the cases provided for by existing national legislation, for the provision of research services as mentioned in Annex I, the professional register 'Μητρώο Μελετητών' and the 'Μητρώο Γραφείων Μελετών',
- in Spain, the 'Registro Oficial de Licitadores y Empresas Clasificadas del Estado',

- in France, the 'Registre du commerce et des sociétés' and the 'Répertoire des métiers',
  - in Italy, the 'Registro della Camera di commercio, industria, agricoltura e artigianato', the 'Registro delle commissioni provinciali per l'artigianato' or the 'Consiglio nazionale degli ordini professionali',
  - in Cyprus, the service provider may be requested to provide a certificate from the 'Registrar of Companies and Official Receiver' (Εφορος Εταιρειών και Επίσημος Παραλήπτης) or, if this is not the case, a certificate stating that the person concerned has declared on oath that he is engaged in the profession in question in the country in which he is established, in a specific place and under a given business name,
  - in Latvia, the 'Uzņēmumu reģistrs',
  - in Lithuania, the 'Juridinių asmenų registras',
  - in Luxembourg, the 'Registre aux firmes' and the 'Rôle de la Chambre des métiers',
  - in Hungary, the 'Cégnyilvántartás', the 'egyéni vállalkozók jegyzői nyilvántartása', some 'szakmai kamarák nyilvántartása' or, in the case of some activities, a certificate stating that the person concerned is authorised to be engaged in the commercial activity or profession in question,
  - in Malta: the service provider can obtain his 'numru ta' registrazzjoni tat-Taxxa tal-Valur Miżjud (VAT) u n-numru tal-licenzja ta' kummerċ', and, in the case of a partnership or company, the relevant registration number as issued by the Malta Financial Services Authority,
  - in the Netherlands, the 'Handelsregister',
  - in Austria, the 'Firmenbuch', the 'Gewerberegister', the 'Mitgliederverzeichnisse der Landeskammern',
  - in Poland, the 'Krajowy Rejestr Sądowy',
  - in Portugal, the 'Registo Nacional das Pessoas Colectivas',
  - in Romania, the 'Registrul Comerțului',
  - in Slovenia, the 'Sodni register' and the 'obrtni register',
  - in Slovakia, the 'Obchodný register',
  - in Finland, the 'Kaupparekisteri'/Handelsregistret',
  - in Sweden, the 'aktiebolags-, handels- eller föreningsregistren',
  - in the United Kingdom, the service provider may be requested to provide a certificate from the Registrar of Companies or, if he is not so certified, a certificate stating that he has declared on oath that he is engaged in the profession in question in a specific place under a given business name.
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## ANNEX VIII

**Requirements relating to devices for the electronic receipt of requests to participate and tenders**

Devices for the electronic receipt of requests for participation and tenders must at least guarantee, through appropriate technical means and procedures, that:

- (a) electronic signatures relating to requests to participate and tenders comply with national provisions adopted pursuant to Directive 1999/93/EC;
  - (b) the exact time and date of the receipt of requests to participate and tenders can be determined precisely;
  - (c) it may be reasonably ensured that, before the time-limits laid down, no-one can have access to data transmitted under these requirements;
  - (d) if that access prohibition is infringed, it may be reasonably ensured that the infringement is clearly detectable;
  - (e) only authorised persons may set or change the dates for opening data received;
  - (f) during the various stages of the contract award procedure, access to all data submitted, or to part thereof, must be possible only through simultaneous action by authorised persons;
  - (g) simultaneous action by authorised persons must give access to data transmitted only after the prescribed date;
  - (h) data received and opened in accordance with these requirements must remain accessible only to persons authorised to acquaint themselves therewith.
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