

COUNCIL DIRECTIVE

of 20 June 1990

on the approximation of the laws of the Member States relating to active implantable medical devices

(90/385/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100a thereof,

Having regard to the proposal from the Commission ⁽¹⁾,

In cooperation with the European Parliament ⁽²⁾,

Having regard to the opinion of the Economic and Social Committee ⁽³⁾,

Whereas in each Member State active implantable medical devices must give patients, users and other persons a high level of protection and achieve the intended level of performance when implanted in human beings;

Whereas several Member States have sought to ensure that level of safety by mandatory specifications relating both to the technical safety features and the inspection procedures for such devices; whereas those specifications differ from one Member State to another;

Whereas national provisions ensuring that safety level should be harmonized in order to guarantee the free movement of active implantable medical devices without lowering existing and justified levels of safety in the Member States;

Whereas harmonized measures must be distinguished from measures taken by Member States to manage the financing of public health and sickness insurance schemes directly or indirectly concerning such devices; whereas, therefore, such provisions do not affect the right of Member States to implement the abovementioned measures in compliance with Community law;

Whereas maintaining or improving the level of protection achieved in Member States constitutes one of this Directive's essential objectives as defined by the essential requirements;

Whereas rules governing active implantable medical devices can be confined to those provisions needed to satisfy the

essential requirements; whereas, because they are essential, these requirements must replace corresponding national provisions;

Whereas, in order to facilitate proof of conformity with these essential requirements and to permit monitoring of that conformity, it is desirable to have Europe-wide harmonized standards in respect of the prevention of risks in connection with the design, manufacture and packaging of active implantable medical devices; whereas such standards harmonized at European level are drawn up by private-law bodies and must retain their status as non-mandatory texts; whereas, to that end, the European Committee for Standardization (CEN) and the European Committee for Electrotechnical Standardization (Cenelec) are recognized as being the competent bodies to adopt harmonized standards in accordance with the general guidelines for cooperation between the Commission and these two bodies, signed on 13 November 1984; whereas, for the purposes of this Directive, a harmonized standard is a technical specification (European standard or harmonization document) adopted by either or both of these bodies, as instructed by the Commission pursuant to the provisions of Council Directive 83/189/EEC of 28 March 1983 laying down a procedure for the provision of information in the field of technical standards and regulations ⁽⁴⁾, as last amended by Directive 88/182/EEC ⁽⁵⁾, and under the abovementioned general guidelines;

Whereas evaluation procedures have to be established and accepted by common accord between the Member States in accordance with Community criteria;

Whereas the specific nature of the medical sector makes it advisable to make provision for the notified body and the manufacturer or his agent established in the Community to fix, by common accord, the time limits for completion of the evaluation and verification operations for the conformity of devices,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. This Directive shall apply to active implantable medical devices.

⁽¹⁾ OJ No C 14, 18. 1. 1989, p. 4.

⁽²⁾ OJ No C 120, 16. 5. 1989, p. 75, and OJ No C 149, 18. 6. 1990.

⁽³⁾ OJ No C 159, 26. 6. 1989, p. 47.

⁽⁴⁾ OJ No L 109, 26. 4. 1983, p. 8.

⁽⁵⁾ OJ No L 81, 26. 3. 1988, p. 75.

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

(a) 'medical device' means any instrument, apparatus, appliance, material or other article, whether used alone or in combination, together with any accessories or software for its proper functioning, intended by the manufacturer to be used for human beings in the:

- diagnosis, prevention, monitoring, treatment or alleviation of disease or injury,
- investigation, replacement or modification of the anatomy or of a physiological process,
- control of conception,

and which does not achieve its principal intended action by pharmacological, chemical, immunological or metabolic means, but which may be assisted in its function by such means;

(b) 'active medical device' means any medical device relying for its functioning on a source of electrical energy or any source of power other than that directly generated by the human body or gravity;

(c) 'active implantable medical device' means any active medical device which is intended to be totally or partially introduced, surgically or medically, into the human body or by medical intervention into a natural orifice, and which is intended to remain after the procedure;

(d) 'custom-made device' means any active implantable medical device specifically made in accordance with a medical specialist's written prescription which gives, under his responsibility, specific design characteristics and is intended to be used only for an individual named patient;

(e) 'device intended for clinical investigation' means any active implantable medical device intended for use by a specialist doctor when conducting investigations in an adequate human clinical environment;

(f) 'intended purpose' means the use for which the medical device is intended and for which it is suited according to the data supplied by the manufacturer in the instructions;

(g) 'putting into service' means making available to the medical profession for implantation.

3. Where an active implantable medical device is intended to administer a substance defined as a medicinal product within the meaning of Council Directive 65/65/EEC of 26 January 1965 on the approximation of provisions laid down by law, regulation or administrative action relating to proprietary medicinal products⁽¹⁾, as last amended by Directive 87/21/EEC⁽²⁾, that substance shall be subject to

the system of marketing authorization provided for in that Directive.

4. Where an active implantable medical device incorporates, as an integral part, a substance which, if used separately, may be considered to be a medicinal product within the meaning of Article 1 of Directive 65/65/EEC, that device must be evaluated and authorized in accordance with the provisions of this Directive.

5. This Directive constitutes a specific Directive within the meaning of Article 2 (2) of Council Directive 89/336/EEC of 3 May 1989 on the approximation of the laws of the Member States relating to electromagnetic compatibility⁽³⁾.

Article 2

Member States shall take all necessary steps to ensure that the devices referred to in Article 1 (2) (c) and (d) may be placed on the market and put into service only if they do not compromise the safety and health of patients, users and, where applicable, other persons when properly implanted, maintained and used in accordance with their intended purposes.

Article 3

The active implantable medical devices referred to in Article 1 (2) (c), (d) and (e), hereinafter referred to as 'devices', must satisfy the essential requirements set out in Annex 1, which shall apply to them account being taken of the intended purpose of the devices concerned.

Article 4

1. Member States shall not impede the placing on the market or the putting into service within their territory of devices bearing the CE mark.

2. Member States shall not create any obstacles to:

- devices intended for clinical investigations being made available to specialist doctors for that purpose if they satisfy the conditions laid down in Article 10 and in Annex 6,
- custom-made devices being placed on the market and put into service if they satisfy the conditions laid down in Annex 6 and are accompanied by the statement referred to in that Annex.

These devices shall not bear the CE mark.

3. At trade fairs, exhibitions, demonstrations, etc., Member States shall not prevent the showing of devices which do not conform to this Directive, provided that a visible sign clearly indicates that such devices do not conform

⁽¹⁾ OJ No 22, 9. 2. 1965, p. 369/65.

⁽²⁾ OJ No L 15, 17. 1. 1987, p. 36.

⁽³⁾ OJ No L 139, 23. 5. 1989, p. 19.

and cannot be put into service until they have been made to comply by the manufacturer or his authorized representative established within the Community.

4. When a device is put into service, Member States may require the information described in sections 13, 14 and 15 of Annex 1 to be in their national language(s).

Article 5

Member States shall presume compliance with the essential requirements referred to in Article 3 in respect of devices which are in conformity with the relevant national standards adopted pursuant to the harmonized standards the references of which have been published in the *Official Journal of the European Communities*; Member States shall publish the references of such national standards.

Article 6

1. Where a Member State or the Commission considers that the harmonized standards referred to in Article 5 do not entirely meet the essential requirements referred to in Article 3, the Commission or the Member State concerned shall bring the matter before the Standing Committee set up under Directive 83/189/EEC, giving the reasons therefor. The Committee shall deliver an opinion without delay.

In the light of the opinion of the Committee, the Commission shall inform Member States of the measures to be taken with regard to the standards and the publication referred to in Article 5.

2. A Standing Committee, hereinafter referred to as the 'Committee', shall be set up, composed of the representatives of the Member States and chaired by the representative of the Commission.

The Committee shall draw up its rules of procedure.

Any matter relating to the implementation and practical application of this Directive may be brought before the Committee, in accordance with the procedure set out below.

The representative of the Commission shall submit to the Committee a draft of the measures to be taken. The Committee shall deliver its opinion according to the urgency of the matter, if necessary by taking a vote.

The opinion shall be recorded in the minutes; in addition, each Member State shall have the right to ask to have its position recorded in the minutes.

The Commission shall take the utmost account of the opinion delivered by the Committee. It shall inform the Committee of the manner in which its opinion has been taken into account.

Article 7

1. Where a Member State finds that the devices referred to in Article 1 (2) (c) and (d), correctly put into service and used in accordance with their intended purpose, may compromise the health and/or safety of patients, users or, where applicable, other persons, it shall take all appropriate measures to withdraw such devices from the market or prohibit or restrict their being placed on the market or their being put into service.

The Member State shall immediately inform the Commission of any such measure, indicating the reasons for its decision and, in particular, whether non-compliance with this Directive is due to:

- (a) failure to meet the essential requirements referred to in Article 3, where the device does not meet in full or in part the standards referred to in Article 5;
- (b) incorrect application of those standards;
- (c) shortcomings in the standards themselves.

2. The Commission shall enter into consultation with the parties concerned as soon as possible. Where, after such consultation, the Commission finds that:

- the measures are justified, it shall immediately so inform the Member State which took the initiative and the other Member States; where the decision referred to in paragraph 1 is attributed to shortcomings in the standards, the Commission shall, after consulting the parties concerned, bring the matter before the Committee referred to in Article 6 (1) within two months if the Member State which has taken the decision intends to maintain it and shall initiate the procedures referred to in Article 6 (1),
- the measures are unjustified, it shall immediately so inform the Member State which took the initiative and the manufacturer or his authorized representative established within the Community.

3. Where a device which does not comply bears the CE mark, the competent Member State shall take appropriate action against whomsoever has affixed the mark and shall inform the Commission and the other Member States thereof.

4. The Commission shall ensure that the Member States are kept informed of the progress and outcome of this procedure.

Article 8

1. Member States shall take the necessary steps to ensure that information brought to their knowledge regarding the incidents mentioned below involving a device is recorded and evaluated in a centralized manner:

- (a) any deterioration in the characteristics and performances of a device, as well as any inaccuracies in the instruction leaflet which might lead to or might have led to the death of a patient or to a deterioration in his state of health;
- (b) any technical or medical reason resulting in withdrawal of a device from the market by the manufacturer.

2. Member States shall, without prejudice to Article 7, forthwith inform the Commission and the other Member States of the incidents referred to in paragraph 1 and of the relevant measures taken or contemplated.

Article 9

1. In the case of devices other than those which are custom-made or intended for clinical investigations, the manufacturer must, in order to affix the CE mark, at his own choice:

- (a) follow the procedure relating to the EC declaration of conformity set out in Annex 2; or
- (b) follow the procedure relating to EC type-examination set out in Annex 3, coupled with:
 - (i) the procedure relating to EC verification set out in Annex 4, or
 - (ii) the procedure relating to the EC declaration of conformity to type set out in Annex 5.

2. In the case of custom-made devices, the manufacturer must draw up the declaration provided for in Annex 6 before placing each device on the market.

3. Where appropriate, the procedures provided for in Annexes 3, 4 and 6 may be discharged by the manufacturer's authorized representative established in the Community.

4. The records and correspondence relating to the procedures referred to in paragraphs 1, 2 and 3 shall be in an official language of the Member State in which the said procedures will be carried out and/or in a language acceptable to the notified body defined in Article 11.

Article 10

1. In the case of devices intended for clinical investigations, the manufacturer or his authorized representative established in the Community shall, at least 60 days before the commencement of the investigations, submit the statement referred to in Annex 6 to the competent authorities of the Member State in which the investigations are to be conducted.

2. The manufacturer may commence the relevant clinical investigations at the end of a period of 60 days after notification, unless the competent authorities have notified

him within that period of a decision to the contrary, based on considerations of public health or public order.

3. The Member States shall, if necessary, take the appropriate steps to ensure public health and order.

Article 11

1. Each Member State shall notify the other Member States and the Commission of the bodies which they have designated for carrying out the tasks pertaining to the procedures referred to in Articles 9 and 13, the specific tasks for which each body has been designated and the identifying logo of these bodies, hereinafter referred to as 'notified bodies'.

The Commission shall publish a list of these notified bodies, together with the tasks for which they have been notified, in the *Official Journal of the European Communities* and shall ensure that the list is kept up to date.

2. Member States shall apply the minimum criteria, set out in Annex 8, for the designation of bodies. Bodies that satisfy the criteria fixed by the relevant harmonized standards shall be presumed to satisfy the relevant minimum criteria.

3. A Member State that has notified a body shall withdraw that notification if it finds that the body no longer meets the criteria referred to in paragraph 2. It shall immediately inform the other Member States and the Commission thereof.

4. The notified body and the manufacturer or his agent established in the Community shall fix, by common accord, the time limits for completion of the evaluation and verification operations referred to in Annexes 2 to 5.

Article 12

1. Devices other than those which are custom made or intended for clinical investigations considered to meet the essential requirements referred to in Article 3 must bear the EC mark of conformity.

2. The EC mark of conformity, as shown in Annex 9, must appear in a visible, legible and indelible form on the sterile pack and, where appropriate, on the sales packaging, if any, and on the instruction leaflet.

It must be accompanied by the logo of the notified body responsible for implementation of the procedures set out in Annexes 2, 4 and 5.

3. The affixing of marks likely to be confused with the EC mark of conformity shall be prohibited.

Article 13

Where it is established that the EC mark has been wrongly affixed, in particular, in respect of devices:

- that do not conform to the relevant standards referred to in Article 5, should the manufacturer have opted for conformity therewith,
- that do not conform to an approved type,
- that conform to an approved type which does not meet the relevant essential requirements,
- regarding which the manufacturer has failed to fulfil his obligations under the relevant EC declaration of conformity,

the notified body shall take appropriate measures and forthwith inform the competent Member State thereof.

Article 14

Any decision taken pursuant to this Directive and resulting in the refusal of or restrictions on the placing on the market and/or putting into service of a device shall state the exact grounds on which it is based. Such decision shall be notified without delay to the party concerned, who shall at the same time be informed of the remedies available to him under the laws in force in the Member State in question and of the time limits to which such remedies are subject.

Article 15

Member States shall ensure that all the parties involved in the application of this Directive are bound to observe confidentiality with regard to all information obtained in

carrying out their tasks. This does not affect the obligations of Member States and notified bodies with regard to mutual information and the dissemination of warnings.

Article 16

1. Before 1 July 1992, Member States shall adopt and publish the laws, regulations and administrative provisions necessary in order to comply with this Directive. They shall forthwith inform the Commission thereof.

They shall apply such provisions from 1 January 1993.

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

3. Member States shall, for the period up to 31 December 1994, permit the placing on the market and putting into service of devices complying with national rules in force in their territory on 31 December 1992.

Article 17

This Directive is addressed to the Member States.

Done at Luxembourg, 20 June 1990.

For the Council

The President

D. J. O'MALLEY

ANNEX 1

ESSENTIAL REQUIREMENTS

I. GENERAL REQUIREMENTS

1. The devices must be designed and manufactured in such a way that, when implanted under the conditions and for the purposes laid down, their use does not compromise the clinical condition or the safety of patients. They must not present any risk to the persons implanting them or, where applicable, to other persons.
2. The devices must achieve the performances intended by the manufacturer, viz. be designed and manufactured in such a way that they are suitable for one or more of the functions referred to in Article 1 (2) (a) as specified by him.
3. The characteristics and performances referred to in sections 1 and 2 must not be adversely affected to such a degree that the clinical condition and safety of the patients or, as appropriate, of other persons are compromised during the lifetime of the device anticipated by the manufacturer, where the device is subjected to stresses which may occur during normal conditions of use.
4. The devices must be designed, manufactured and packed in such a way that their characteristics and performances are not adversely affected in the storage and transport conditions laid down by the manufacturer (temperature, humidity, etc.).
5. Any side effects or undesirable conditions must constitute acceptable risks when weighed against the performances intended.

II. REQUIREMENTS REGARDING DESIGN AND CONSTRUCTION

6. The solutions adopted by the manufacturer for the design and construction of the devices must comply with safety principles taking account of the generally acknowledged state of the art.
7. Implantable devices must be designed, manufactured and packed in a non-reusable pack according to appropriate procedures to ensure they are sterile when placed on the market and, in the storage and transport conditions stipulated by the manufacturer, remain so until the packaging is removed and they are implanted.
8. Devices must be designed and manufactured in such a way as to remove or minimize as far as possible:
 - the risk of physical injury in connection with their physical, including dimensional, features,
 - risks connected with the use of energy sources with particular reference, where electricity is used, to insulation, leakage currents and overheating of the devices,
 - risks connected with reasonably foreseeable environmental conditions such as magnetic fields, external electrical influences, electrostatic discharge, pressure or variations in pressure and acceleration,
 - risks connected with medical treatment, in particular those resulting from the use of defibrillators or high-frequency surgical equipment,
 - risks connected with ionizing radiation from radioactive substances included in the device, in compliance with the protection requirements laid down in Directive 80/836/Euratom ⁽¹⁾, as amended by Directives 84/467/Euratom ⁽²⁾ and 84/466/Euratom ⁽³⁾,
 - risks which may arise where maintenance and calibration are impossible, including:
 - excessive increase of leakage currents,
 - ageing of the materials used,
 - excess heat generated by the device,
 - decreased accuracy of any measuring or control mechanism.

⁽¹⁾ OJ No L 246, 17. 9. 1980, p. 1.

⁽²⁾ OJ No L 265, 5. 10. 1984, p. 4.

⁽³⁾ OJ No L 265, 5. 10. 1984, p. 1.

9. The devices must be designed and manufactured in such a way as to guarantee the characteristics and performances referred to in I. 'General requirements', with particular attention being paid to:
 - the choice of materials used, particularly as regards toxicity aspects,
 - mutual compatibility between the materials used and biological tissues, cells and body fluids, account being taken of the anticipated use of the device,
 - compatibility of the devices with the substances they are intended to administer,
 - the quality of the connections, particularly in respect of safety,
 - the reliability of the source of energy,
 - if appropriate, that they are leakproof,
 - proper functioning of the programming and control systems, including software.
10. Where a device incorporates, as an integral part, a substance which, when used separately, is likely to be considered to be a medicinal product as defined in Article 1 of Directive 65/65/EEC, and whose action in combination with the device may result in its bioavailability, the safety, quality and usefulness of the substance, account being taken of the purpose of the device, must be verified by analogy with the appropriate methods specified in Directive 75/318/EEC⁽¹⁾, as last amended by Directive 89/341/EEC⁽²⁾.
11. The devices and, if appropriate, their component parts must be identified to allow any necessary measure to be taken following the discovery of a potential risk in connection with the devices and their component parts.
12. Devices must bear a code by which they and their manufacturer can be unequivocally identified (particularly with regard to the type of device and year of manufacture); it must be possible to read this code, if necessary, without the need for a surgical operation.
13. When a device or its accessories bear instructions required for the operation of the device or indicate operating or adjustment parameters, by means of a visual system, such information must be understandable to the user and, as appropriate, the patient.
14. Every device must bear, legibly and indelibly, the following particulars, where appropriate in the form of generally recognized symbols:
 - 14.1. On the sterile pack:
 - the method of sterilization,
 - an indication permitting this packaging to be recognized as such,
 - the name and address of the manufacturer,
 - a description of the device,
 - if the device is intended for clinical investigations, the words: 'exclusively for clinical investigations',
 - if the device is custom-made, the words 'custom-made device',
 - a declaration that the implantable device is in a sterile condition,
 - the month and year of manufacture,
 - an indication of the time limit for implanting a device safely.
 - 14.2. On the sales packaging:
 - the name and address of the manufacturer,
 - a description of the device,
 - the purpose of the device,
 - the relevant characteristics for its use,
 - if the device is intended for clinical investigations, the words: 'exclusively for clinical investigations',

⁽¹⁾ OJ No L 147, 9. 6. 1975, p. 1.

⁽²⁾ OJ No L 142, 25. 5. 1989, p. 11.

- if the device is custom-made, the words: 'custom-made device',
- a declaration that the implantable device is in a sterile condition,
- the month and year of manufacture,
- an indication of the time limit for implanting a device safely,
- the conditions for transporting and storing the device.

15. When placed on the market, each device must be accompanied by instructions for use giving the following particulars:

- the year of authorization to affix the CE mark,
- the details referred to in 14.1 and 14.2, with the exception of those referred to in the eighth and ninth indents,
- the performances referred to in section 2 and any undesirable side effects,
- information allowing the physician to select a suitable device and the corresponding software and accessories,
- information constituting the instructions for use allowing the physician and, where appropriate, the patient to use the device, its accessories and software correctly, as well as information on the nature, scope and times for operating controls and trials and, where appropriate, maintenance measures,
- information allowing, if appropriate, certain risks in connection with implantation of the device to be avoided,
- information regarding the risks of reciprocal interference (*) in connection with the presence of the device during specific investigations or treatment,
- the necessary instructions in the event of the sterile pack being damaged and, where appropriate, details of appropriate methods of resterilization,
- an indication, if appropriate, that a device can be reused only if it is reconditioned under the responsibility of the manufacturer to comply with the essential requirements.

The instruction leaflet must also include details allowing the physician to brief the patient on the contra-indications and the precautions to be taken. These details should cover in particular:

- information allowing the lifetime of the energy source to be established,
- precautions to be taken should changes occur in the device's performance,
- precautions to be taken as regards exposure, in reasonably foreseeable environmental conditions, to magnetic fields, external electrical influences, electrostatic discharge, pressure or variations in pressure, acceleration, etc.,
- adequate information regarding the medicinal products which the device in question is designed to administer.

16. Confirmation that the device satisfies the requirements in respect of characteristics and performances, as referred to in I. 'General requirements', in normal conditions of use, and the evaluation of the side effects or undesirable effects must be based on clinical data established in accordance with Annex 7.

(*) 'Risks of reciprocal interference' means adverse effects on the device caused by instruments present at the time of investigations or treatment, and vice versa.

ANNEX 2

EC DECLARATION OF CONFORMITY

(Complete quality assurance system)

1. The manufacturer shall apply the quality system approved for the design, manufacture and final inspection of the products concerned as specified in sections 3 and 4 and shall be subject to EC surveillance as specified in section 5.
2. The declaration of conformity is the procedure by means of which the manufacturer who satisfies the obligations of section 1 ensures and declares that the products concerned meet the provisions of this Directive which apply to them

The manufacturer shall apply the CE mark in accordance with Article 12 and draw up a written declaration of conformity. This declaration shall cover one or more identified specimens of the product and shall be kept by the manufacturer. The CE mark shall be accompanied by the identifying logo of the notified body responsible.

3. Quality system

- 3.1. The manufacturer shall make an application for evaluation of his quality system to a notified body.

The application shall include:

- all the appropriate items of information for the category of products manufacture of which is envisaged,
- the quality-system documentation,
- an undertaking to fulfil the obligations arising from the quality system as approved,
- an undertaking to maintain the approved quality system in such a way that it remains adequate and efficacious,
- an undertaking by the manufacturer to institute and keep up-dated a post-marketing surveillance system. The undertaking shall include an obligation for the manufacturer to notify the competent authorities of the following incidents immediately on learning of them:
 - (i) any deterioration in the characteristics or performances, and any inaccuracies in the instruction leaflet for a device which might lead to or have led to the death of a patient or a deterioration in his state of health;
 - (ii) any technical or medical reason resulting in withdrawal of a device from the market by the manufacturer.

- 3.2. The application of the quality system must ensure that the products conform to the provisions of this Directive which apply to them at every stage, from design to final controls.

All the elements, requirements and provisions adopted by the manufacturer for his quality system shall be documented in a systematic and orderly manner in the form of written policies and procedures. This quality-system documentation must make possible a uniform interpretation of the quality policies and procedures such as quality programmes, quality plans, quality manuals and quality records.

It shall include in particular an adequate description of:

- (a) the manufacturer's quality objectives;
- (b) the organization of the business and in particular:
 - the organizational structures, the responsibilities of the managerial staff and their organizational authority where quality of design and manufacture of the products is concerned, ...
 - the methods of monitoring the efficient operation of the quality system and in particular its ability to achieve the desired quality of the design and of the products, including control of products which do not conform;

- (c) the procedures for monitoring and verifying the design of the products and in particular:
 - the design specifications, including the standards which will be applied and a description of the solutions adopted to fulfil the essential requirements which apply to the products when the standards referred to in Article 5 are not applied in full,
 - the techniques of control and verification of the design, the processes and systematic actions which will be used when the products are being designed;
 - (d) the techniques of control and of quality assurance at the manufacturing stage and in particular:
 - the processes and procedures which will be used, particularly as regards sterilization, purchasing and the relevant documents,
 - product-identification procedures drawn up and kept up to date from drawings, specifications or other relevant documents at every stage of manufacture;
 - (e) the appropriate tests and trials which will be effected before, during and after production, the frequency with which they will take place, and the test equipment used.
- 3.3. Without prejudice to Article 13 of this Directive, the notified body shall effect an audit of the quality system to determine whether it meets the requirements referred to in 3.2. It shall presume conformity with these requirements for the quality systems which use the corresponding harmonized standards.
- The team entrusted with the evaluation shall include at least one member who has already had experience of evaluations of the technology concerned. The evaluation procedure shall include an inspection on the manufacturer's premises.
- The decision shall be notified to the manufacturer after the final inspection. It shall contain the conclusions of the control and a reasoned evaluation.
- 3.4. The manufacturer shall inform the notified body which has approved the quality system of any plan to alter the quality system.
- The notified body shall evaluate the proposed modifications and shall verify whether the quality system so modified would meet the requirements referred to in 3.2; it shall notify the manufacturer of its decision. This decision shall contain the conclusions of the control and a reasoned evaluation.
- 4. Examination of the design of the product**
- 4.1. In addition to the obligations incumbent on him under section 3, the manufacturer shall make an application for examination of the design dossier relating to the product which he plans to manufacture and which falls into the category referred to in 3.1.
- 4.2. The application shall describe the design, manufacture, and performances of the product in question and shall include the necessary particulars which make it possible to evaluate whether it complies with the requirements of this Directive.
- It shall include *inter alia*:
- the design specifications, including the standards which have been applied,
 - the necessary proof of their appropriations, in particular where the standards referred to in Article 5 have not been applied in full. This proof must include the results of the appropriate tests carried out by the manufacturer or carried out under his responsibility,
 - a statement as to whether or not the device incorporates, as an integral part, a substance as referred to in section 10 of Annex 1, whose action in combination with the device may result in its bioavailability, together with data on the relevant trials conducted,
 - the clinical data referred to in Annex 7,
 - the draft instruction leaflet.
- 4.3. The notified body shall examine the application and, where the product complies with the relevant provisions of this Directive, shall issue the applicant with an EC design examination certificate. The notified body may require the application to be supplemented by further tests or proof so that compliance with the requirements of the Directive may be evaluated. The certificate shall contain the conclusions of the examination, the conditions of its validity, the data needed for identification of the approved design and, where appropriate, a description of the intended use of the product.

- 4.4. The applicant shall inform the notified body which issued the EC design examination certificate of any modification made to the approved design. Modifications made to the approved design must obtain supplementary approval from the notified body which issued the EC design examination certificate where such modifications may affect conformity with the essential requirements of this Directive or the conditions prescribed for the use of the product. This supplementary approval shall be given in the form of an addendum to the EC design examination certificate.
5. **Surveillance**
- 5.1. The aim of surveillance is to ensure that the manufacturer duly fulfils the obligations arising from the approved quality system.
- 5.2. The manufacturer shall authorize the notified body to carry out all necessary inspections and shall supply it with all appropriate information, in particular:
- the quality-system documentation,
 - the data stipulated in the part of the quality system relating to design, such as the results of analyses, calculations, tests, etc.,
 - the data stipulated in the part of the quality system relating to manufacture, such as reports concerning inspections, tests, standardizations/calibrations and the qualifications of the staff concerned, etc.
- 5.3. The notified body shall periodically carry out appropriate inspections and evaluations in order to ascertain that the manufacturer is applying the approved quality system, and shall supply the manufacturer with an evaluation report.
- 5.4. In addition, the notified body may make unannounced visits to the manufacturer, and shall supply him with an inspection report.
6. The notified body shall communicate to the other notified bodies all relevant information concerning approvals of quality systems issued, refused and withdrawn.

ANNEX 3

EC TYPE-EXAMINATION

1. EC type-examination is the procedure whereby a notified body observes and certifies that a representative sample of the production envisaged satisfies the relevant provisions of this Directive.
2. The application for EC type-examination shall be made by the manufacturer, or by his authorized representative established in the Community, to a notified body.
The application shall include:
 - the name and address of the manufacturer and the name and address of the authorized representative if the application is made by the latter,
 - a written declaration specifying that an application has not been made to any other notified body,
 - the documentation described in section 3 needed to allow an evaluation to be made of the conformity of a representative sample of the production in question, hereinafter referred to as 'type', with the requirements of this Directive.The applicant shall make a 'type' available to the notified body. The notified body may request other samples as necessary.
3. The documentation must make it possible to understand the design, the manufacture and the performances of the product. The documentation shall contain the following items in particular:
 - a general description of the type,
 - design drawings, methods of manufacture envisaged, in particular as regards sterilization, and diagrams of parts, sub-assemblies, circuits, etc.,
 - the descriptions and explanations necessary for the understanding of the abovementioned drawings and diagrams and of the operation of the product,
 - a list of the standards referred to in Article 5, applied in full or in part, and a description of the solutions adopted to satisfy the essential requirements where the standards referred to in Article 5 have not been applied,
 - the results of design calculations, investigations and technical tests carried out, etc.,
 - a statement as to whether or not the device incorporates, as an integral part, a substance as referred to in section 10 of Annex 1, whose action in combination with the device may result in its bioavailability, together with data on the relevant trials conducted,
 - the clinical data referred to in Annex 7,
 - the draft instruction leaflet.
4. The notified body shall:
 - 4.1. examine and evaluate the documentation, verify that the type has been manufactured in accordance with that documentation; it shall also record the items which have been designed in accordance with the applicable provisions of the standards referred to in Article 5, as well as the items for which the design is not based on the relevant provisions of the said standards;
 - 4.2. carry out or have carried out the appropriate inspections and the tests necessary to verify whether the solutions adopted by the manufacturer satisfy the essential requirements of this Directive where the standards referred to in Article 5 have not been applied;
 - 4.3. carry out or have carried out the appropriate inspections and the tests necessary to verify whether, where the manufacturer has chosen to apply the relevant standards, these have actually been applied;
 - 4.4. agree with the applicant on the place where the necessary inspections and tests will be carried out.

5. Where the type meets the provisions of this Directive, the notified body shall issue an EC type-examination certificate to the applicant. The certificate shall contain the name and address of the manufacturer, the conclusions of the control, the conditions under which the certificate is valid and the information necessary for identification of the type approved.
The significant parts of the documentation shall be attached to the certificate and a copy shall be kept by the notified body.
 6. The applicant shall inform the notified body which issued the EC type-examination certificate of any modification made to the approved product.
Modifications to the approved product must receive further approval from the notified body which issued the EC type-examination certificate where such modifications may affect conformity with the essential requirements or with the conditions of use specified for the product. This new approval shall be issued, where appropriate, in the form of a supplement to the initial EC type-examination certificate.
 7. Each notified body shall communicate to the other notified bodies all relevant information on EC-type examination certificates and supplements issued, refused or withdrawn.
 8. Other notified bodies may obtain a copy of the EC type-examination certificates and/or the supplements to them. The annexes to the certificates shall be made available to the other notified bodies when a reasoned application is made and after first informing the manufacturer.
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ANNEX 4

EC VERIFICATION

1. EC verification is the act by which a notified body verifies and certifies that products conform to the type described in the EC type-examination certificate and satisfy the relevant requirements of this Directive.
2. The manufacturer shall, before the start of manufacture, prepare documents defining the manufacturing process, in particular as regards sterilization, together with all the routine, pre-established provisions to be implemented to ensure homogeneity of production and conformity of the products with the type described in the EC type-examination certificate as well as with the relevant requirements of the Directive.
3. The manufacturer shall undertake to institute and keep up-dated a post-marketing surveillance system. The undertaking shall include an obligation for the manufacturer to notify the competent authorities of the following events immediately on learning of them:
 - (i) any deterioration in the characteristics or performances, and any inaccuracies in the instruction leaflet for a device which might lead to or have led to the death of a patient or a deterioration in his state of health;
 - (ii) any technical or medical reason resulting in withdrawal of a device from the market by the manufacturer.
4. The notified body shall carry out EC verification by controls and tests on the products on a statistical basis as specified in 5. The manufacturer must authorize the notified body to evaluate the efficiency of the measures taken pursuant to section 2, by audit where appropriate.
5. **Statistical verification**
 - 5.1. The manufacturer shall present the manufactured products in the form of homogeneous batches.
 - 5.2. A random sample shall be taken from each batch. The products which make up the sample shall be examined individually and appropriate tests, defined in the relevant standard(s) referred to in Article 5, or equivalent tests, shall be carried out to verify the conformity of the products with the type described in the EC type-examination certificate, in order to determine whether the batch is to be accepted or rejected.
 - 5.3. Statistical control of products will be based on attributes, entailing a sampling system with the following characteristics:
 - a level of quality corresponding to a probability of acceptance of 95 %, with a non-conformity percentage of between 0,29 and 1 %,
 - a limit quality corresponding to a probability of acceptance of 5 %, with a non-conformity percentage of between 3 and 7 %.
 - 5.4. If a batch is accepted, the notified body shall draw up a written certificate of conformity. All the products in the batch may be placed on the market, with the exception of those products in the sample which were found not to conform.

If a batch is rejected, the notified body which is responsible shall take the appropriate measures to prevent the batch from being placed on the market.

If justified on practical grounds, the manufacturer may affix the CE mark during manufacture, under the responsibility of the notified body, in accordance with Article 12, accompanied by the identifying logo of the notified body responsible for statistical verification.

ANNEX 5

EC DECLARATION OF CONFORMITY TO TYPE

(Assurance of production quality)

1. The manufacturer shall apply the quality system approved for the manufacture and shall conduct the final inspection of the products concerned as specified in 3; he shall be subject to the surveillance referred to in section 4.
2. This declaration of conformity is the procedural element whereby the manufacturer who satisfies the obligations of section 1 guarantees and declares that the products concerned conform to the type described in the EC type-examination certificate and meet the provisions of the Directive which apply to them.

The manufacturer shall affix the CE mark in accordance with Article 12 and draw up a written declaration of conformity. This declaration shall cover one or more identified specimens of the product and shall be kept by the manufacturer. The CE mark shall be accompanied by the identifying logo of the notified body responsible.

3. **Quality system**

- 3.1. The manufacturer shall make an application for evaluation of his quality system to a notified body.

The application shall include:

- all appropriate information concerning the products which it is intended to manufacture,
- the quality-system documentation,
- an undertaking to fulfil the obligations arising from the quality system as approved,
- an undertaking to maintain the approved quality system in such a way that it remains adequate and efficacious,
- where appropriate, the technical documentation relating to the approved type and a copy of the EC type-examination certificate,
- an undertaking by the manufacturer to institute and keep up-dated a post-marketing surveillance system. The undertaking shall include an obligation for the manufacturer to notify the competent authorities of the following incidents immediately on learning of them:
 - (i) any deterioration in the characteristics or performances, and any inaccuracies in the instruction leaflet for a device which might lead to or have led to the death of a patient or a deterioration in his state of health;
 - (ii) any technical or medical reason resulting in withdrawal of a device from the market by the manufacturer.

- 3.2. Application of the quality system must ensure that the products conform to the type described in the EC type-examination certificate.

All the elements, requirements and provisions adopted by the manufacturer for his quality system shall be documented in a systematic and orderly manner in the form of written policies and procedures. This quality-system documentation must make possible a uniform interpretation of the quality policies and procedures such as quality programmes, quality plans, quality manuals and quality records.

It shall include in particular an adequate description of:

- (a) the manufacturer's quality objectives;
- (b) the organization of the business and in particular:
 - the organizational structures, the responsibilities of the managerial staff and their organizational authority where manufacture of the products is concerned,

- the methods of monitoring the efficient operation of the quality system and in particular its ability to achieve the desired quality of the design and of the products, including control of products which do not conform;
- (c) the techniques of control and of quality assurance at the manufacturing stage and in particular:
 - the processes and procedures which will be used, particularly as regards sterilization, purchasing and the relevant documents,
 - product identification procedures drawn up and kept up-to-date from drawings, specifications or other relevant documents at every stage of manufacture;
- (d) the appropriate tests and trials which will be effected before, during and after production, the frequency with which they will take place, and the test equipment used.

- 3.3. Without prejudice to Article 13, the notified body shall effect an audit of the quality system to determine whether it meets the requirements referred to in 3.2. It shall presume conformity with these requirements for the quality systems which use the corresponding harmonized standards.

The team entrusted with the evaluation shall include at least one member who has already had experience of evaluations of the technology concerned. The evaluation procedure shall include an inspection on the manufacturer's premises.

The decision shall be notified to the manufacturer after the final inspection. It shall contain the conclusions of the control and a reasoned evaluation.

- 3.4. The manufacturer shall inform the notified body which has approved the quality system of any plan to alter that system.

The notified body shall evaluate the proposed modifications and shall verify whether the quality system so modified would meet the requirements referred to in 3.2; it shall notify the manufacturer of its decision. This decision shall contain the conclusions of the control and a reasoned evaluation.

4. Surveillance

- 4.1. The aim of surveillance is to ensure that the manufacturer duly fulfils the obligations which arise from the approved quality system.

- 4.2. The manufacturer shall authorize the notified body to carry out all necessary inspections and shall supply it with all appropriate information, in particular:

- the quality-system documentation,
- the data stipulated in the part of the quality system relating to manufacture, such as reports concerning inspections, tests, standardizations/calibrations and the qualifications of the staff concerned, etc.

- 4.3. The notified body shall periodically carry out appropriate inspections and evaluations in order to ascertain that the manufacturer is applying the approved quality system, and shall supply the manufacturer with an evaluation report.

- 4.4. In addition, the notified body may make unannounced visits to the manufacturer, and shall supply him with an inspection report.

5. The notified body shall communicate to the other notified bodies all relevant information concerning approvals of quality systems issued, refused or withdrawn.

ANNEX 6

STATEMENT CONCERNING DEVICES INTENDED FOR SPECIAL PURPOSES

1. The manufacturer or his authorized representative established within the Community shall draw up for custom-made devices or for devices intended for clinical investigations the statement comprising the elements stipulated in section 2.
2. The statement shall comprise the following information:
 - 2.1. For custom-made devices:
 - data allowing the device in question to be identified,
 - a statement affirming that the device is intended for exclusive use by a particular patient, together with his name,
 - the name of the doctor who drew up the prescription and, if applicable, the name of the clinic concerned,
 - the particular features of the device as described by the medical prescription concerned,
 - a statement affirming that the device complies with the essential requirements given in Annex 1 and, where applicable, indicating which essential requirements have not been wholly met, together with the grounds.
 - 2.2. For devices intended for clinical investigations covered in Annex 7:
 - data allowing the devices in question to be identified,
 - an investigation plan giving in particular the purpose, scope and number of the devices concerned,
 - the name of the doctor and of the institution responsible for the investigations,
 - the place, date of commencement and duration scheduled for the investigations,
 - a statement affirming that the device in question complies with the essential requirements apart from the aspects constituting the object of the investigations and that, with regard to these aspects, every precaution has been taken to protect the health and safety of the patient.
3. The manufacturer shall undertake to keep available for the competent national authorities:
 - 3.1. For custom-made devices, documentation enabling the design, manufacture and performances of the product, including the expected performances, to be understood, so as to allow conformity with the requirement of this Directive to be assessed.

The manufacturer shall take all necessary measures to see that the manufacturing process ensures that the products manufactured conform to the documentation referred to in the first paragraph.
 - 3.2. For devices intended for clinical investigations, the documentation shall also contain:
 - a general description of the product,
 - design drawings, manufacturing methods, in particular as regards sterilization, and diagrams of parts, sub-assemblies, circuits, etc.,
 - the descriptions and explanations necessary for the understanding of the said drawings and diagrams and of the operation of the product,
 - a list of the standards laid down in Article 5, applied in full or in part, and a description of the solutions adopted to satisfy the essential requirements of the Directive where the standards in Article 5 have not been applied,
 - the results of the design calculations, checks and technical tests carried out, etc.

The manufacturer shall take all necessary measures to see that the manufacturing process ensures that the products manufactured conform to the documentation referred to in 3.1 and in the first paragraph of this section.

The manufacturer may authorize the evaluation, by audit where necessary, of the effectiveness of these measures.

ANNEX 7

CLINICAL EVALUATION

1. General provisions

- 1.1. Adequacy of the clinical data presented, as referred to in section 4.2 of Annex 2, and in section 3 of Annex 3, shall be based, account being taken as appropriate of the relevant harmonized standards, on either:
 - 1.1.1. a collation of currently available relevant scientific literature covering the intended use of the device and the techniques thereof, as well as, if appropriate, a written report making a critical assessment of this collation; or
 - 1.1.2. the results of all clinical investigations made, including those carried out in accordance with section 2.
- 1.2. All data must remain confidential unless it is deemed essential that they be divulged.

2. Clinical investigation

2.1. Purpose

The purpose of clinical investigation is to:

- verify that, under normal conditions of use, the performances of the device comply with those indicated in section 2 of Annex 1,
- determine any undesirable side effects, under normal conditions of use, and assess whether they are acceptable risks having regard to the intended performance of the device.

2.2. Ethical consideration

Clinical investigations shall be made in accordance with the Declaration of Helsinki approved by the 18th World Medical Assembly in Helsinki, Finland, in 1964, and amended by the 29th World Medical Assembly in Tokyo, Japan, in 1975 and the 35th World Medical Assembly in Venice, Italy, in 1983. It is mandatory that all measures relating to the protection of human subjects are carried out in the spirit of the Declaration of Helsinki. This includes every step in the clinical investigation from first consideration of need and justification of the study to publication of results.

2.3. Methods

- 2.3.1. Clinical investigations shall be performed according to an appropriate state of the art plan of investigation defined in such a way as to confirm or refute the manufacturer's claims for the device; the investigations shall include an adequate number of observations to guarantee the scientific validity of the conclusions.
- 2.3.2. The procedures utilized to perform the investigations shall be appropriate to the device under examination.
- 2.3.3. Clinical investigations shall be performed in circumstances equivalent to those which would be found in normal conditions of use of the device.
- 2.3.4. All appropriate features, including those involving the safety and performances of the device, and its effects on the patients, shall be examined.
- 2.3.5. All adverse events shall be fully recorded.
- 2.3.6. The investigations shall be performed under the responsibility of an appropriately qualified medical specialist, in an appropriate environment.

The medical specialist shall have access to the technical data regarding the device.
- 2.3.7. The written report, signed by the responsible medical specialist, shall comprise a critical evaluation of all the data collected during the clinical investigation.

ANNEX 8

MINIMUM CRITERIA TO BE MET WHEN DESIGNATING INSPECTION BODIES TO BE NOTIFIED

1. The body, its director and the staff responsible for carrying out the evaluation and verification operations shall not be the designer, manufacturer, supplier or installer of devices which they control, nor the authorized representative of any of those parties. They may not become directly involved in the design, construction, marketing or maintenance of the devices, nor represent the parties engaged in these activities. This does not preclude the possibility of exchanges of technical information between the manufacturer and the body.
2. The body and its staff must carry out the evaluation and verification operations with the highest degree of professional integrity and technical competence and must be free from all pressures and inducements, particularly financial, which might influence their judgement or the results of the inspection, especially from persons or groups of persons with an interest in the results of verifications.
3. The body must be able to carry out all the tasks in one of Annexes 2 to 5 assigned to such a body and for which it has been notified, whether those tasks are carried out by the body itself or under its responsibility. In particular, it must have at its disposal the necessary staff and possess the necessary facilities to enable it to perform properly the technical and administrative tasks connected with evaluation and verification; it must also have access to the equipment necessary for the verifications required.
4. The staff responsible for control operations must have:
 - sound vocational training covering all the evaluation and verification operations for which the body has been designated,
 - satisfactory knowledge of the requirements of the controls they carry out and adequate experience of such operations,
 - the ability required to draw up the certificates, records and reports to demonstrate that the controls have been carried out.
5. The impartiality of inspection staff must be guaranteed. Their remuneration must not depend on the number of controls carried out, nor on the results of such controls.
6. The body must take out liability insurance unless liability is assumed by the State in accordance with national law, or the Member State itself is directly responsible for controls.
7. The staff of the body are bound to observe professional secrecy with regard to all information gained in carrying out their tasks (except *vis-à-vis* the competent administrative authorities of the State in which their activities are carried out) under this Directive or any provision of national law giving effect to it.

ANNEX 9

CE MARK OF CONFORMITY

