

## SCHEDULE 3

### CONFORMITY ASSESSMENT PROCEDURES

*(This Schedule substantially reproduces the provisions of Part 1 of Annex IV to the Transportable Pressure Equipment Directive.)*

#### **Module A—internal production control**

1. This module describes the procedure whereby the manufacturer, or his authorised representative established within the Community who carries out the obligations laid down in paragraph 2, ensures and declares that transportable pressure vessels satisfy the relevant requirements of these Regulations. The manufacturer; or his authorised representative established within the Community, must affix the conformity marking to all such transportable pressure vessels and draw up a written declaration of conformity.

2. The manufacturer must draw up the technical documentation described in paragraph 3 and either the manufacturer or his authorised representative established within the Community must keep it at the disposal of the Executive for inspection purposes for a period of 10 years after the last of the transportable pressure vessels have been manufactured. Where neither the manufacturer nor his authorised representative is established within the Community, the obligation to keep the technical documentation available is the responsibility of the person who places the transportable pressure equipment on the market.

3. The technical documentation must enable an assessment to be made of the conformity of the transportable pressure vessels with the relevant requirements of these Regulations. It must, as far as is relevant for such assessment, cover the design, manufacture and operation of the transportable pressure vessels and contain:

- general description of the transportable pressure vessels,
- conceptual design and manufacturing drawings and diagrams of components, sub-assemblies, circuits, etc.,
- descriptions and explanations necessary for an understanding of the said drawings and diagrams and the operation of the transportable pressure vessels,
- a description of the solutions adopted to meet the requirements of these Regulations,
- results of the design calculations, examinations carried out, etc.,
- test reports.

4. The manufacturer, or his authorised representative established within the Community, must keep a copy of the declaration of conformity with the technical documentation.

5. The manufacturer must take all measures necessary to ensure that the manufacturing process requires the manufactured transportable pressure vessels to comply with the technical documentation referred to in paragraph 2 and with the requirements of these Regulations.

#### **Module A1—internal manufacturing checks with monitoring of the final assessment**

In addition to the requirements of module A, the following applies.

Final assessment must be performed by the manufacturer and monitored by means of unexpected visits by a notified body chosen by the manufacturer.

During such visits, the notified body must:

- ensure that the manufacturer actually performs final assessment,

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- take samples of transportable pressure vessels at the manufacturing or storage premises in order to conduct checks. The notified body assesses the number of vessels to sample and whether it is necessary to perform, or have performed, all or part of the final assessment of the samples of vessels.

Should one or more of the transportable pressure vessels not conform, the notified body must take appropriate measures.

On the responsibility of the notified body, the manufacturer must affix that body's identification number to each transportable pressure vessel.

### **Module B—EC type-examination**

1. This module describes the part of the procedure by which a notified body ascertains and attests that a representative example of the production envisaged meets the provisions of these Regulations.

2. The application for EC-type-examination must be lodged by the manufacturer or by his authorised representative established within the Community with a single notified body of his choice.

The application must include:

- the name and address of the manufacturer and, if the application is lodged by the authorised representative established within the Community, his name and address as well,
- a written declaration that the same application has not been lodged with any other notified body,
- the technical documentation described in paragraph 3.

The applicant must place at the disposal of the notified body a representative example of the production envisaged, hereinafter called "type". The notified body may request further examples should the test programme so require.

A type may cover several versions of the transportable pressure vessels provided that the differences between the versions do not affect the level of safety.

3. The technical documentation must enable an assessment to be made of the conformity of the transportable pressure vessels with the relevant requirements of these Regulations. It must, as far as is relevant for such assessment, cover the design, manufacture and operation of the transportable pressure vessels and contain:

- a general description of the type,
- conceptual design and manufacturing drawings and diagrams of components, sub-assemblies, circuits, etc.,
- descriptions and explanations necessary for an understanding of the said drawings and diagrams and the operation of the transportable pressure vessels,
- a description of the solutions adopted to meet the essential requirements of these Regulations,
- test reports,
- results of the design calculations made, examinations carried out, etc.,
- information concerning the tests provided for in manufacture,
- information concerning the qualifications or approvals.

4. The notified body must:

4.1 examine the technical documentation, verify that the type has been manufactured in conformity with it and identify the components designed in accordance with the relevant provisions of these Regulations and in particular:

- examine the technical documentation with respect to the design and the manufacturing procedures,

- assess the materials used where these are not in conformity with the relevant provisions of these Regulations and check the certificate issued by the materials manufacturer,
- approve the procedures for the permanent joining of pressure vessel parts or check that they have been previously approved,
- verify that the staff undertaking the permanent joining of pressure vessel parts and the non-destructive tests are qualified or approved;

4.2 perform or have performed the appropriate examinations and necessary tests to establish whether the solutions adopted by the manufacturer meet the relevant requirements of these Regulations;

4.3 perform or have performed the appropriate examinations and necessary tests to establish whether the relevant provisions of these Regulations have been applied;

4.4 agree with the applicant the location where the examinations and necessary tests are to be carried out.

5. Where the type satisfies the relevant provisions of these Regulations, the notified body must issue an EC type-examination certificate to the applicant. The certificate, which should be valid for 10 years and be renewable, must contain the name and address of the manufacturer, the conclusions of the examination and the necessary data for identification of the approved type.

A list of the relevant parts of the technical documentation must be annexed to the certificate and a copy kept by the notified body.

If the notified body refuses to issue an EC type-examination certificate to the manufacturer or to his authorised representative established within the Community, that body must provide detailed reasons for such refusal. Provision must be made for an appeals procedure.

6. The applicant must inform the notified body that holds the technical documentation concerning the EC type-examination certificate of all modifications to the approved transportable pressure vessels; these are subject to additional approval where they may affect conformity with the requirements of these Regulations or the prescribed conditions for use of the vessels. This additional approval must be given in the form of an addition to the original EC type-examination certificate.

7. Each notified body must communicate to the Member States the relevant information concerning EC type-examination certificates which it has withdrawn, and, on request, those it has issued.

Each notified body must also communicate to the other notified bodies the relevant information concerning the EC type-examination certificates it has withdrawn or refused.

8. The other notified bodies may receive copies of the EC type-examination certificates and/or their additions. The annexes to the certificates must be held at the disposal of the other notified bodies.

9. The manufacturer, or his authorised representative established within the Community, must keep with the technical documentation copies of EC type-examination certificates and their additions for a period of 10 years after the last of the transportable pressure vessels have been manufactured.

Where neither the manufacturer nor his authorised representative is established within the Community, the obligation to keep the technical documentation available is the responsibility of the person who places the product on the market.

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## **Module B1—EC design examination**

1. This module describes the part of the procedure whereby a notified body ascertains and attests that the design of a certain transportable pressure vessel meets the relevant provisions of these Regulations.

2. The manufacturer, or his authorised representative established within the Community, must lodge an application for EC design examination with a single notified body which must include:

- the name and address of the manufacturer and, if the application is lodged by the authorised representative established within the Community, his name and address as well,
- a written declaration that the same application has not been lodged with any other noted body,
- the technical documentation described in paragraph 3,

and may cover several versions of the transportable pressure vessel provided that the differences between the versions do not affect the level of safety.

3. The technical documentation must enable an assessment to be made of the conformity of the transportable pressure vessel with the relevant requirements of these Regulations. It must, as far as is relevant for such assessment, cover the design, manufacture and operation of the transportable pressure vessel and contain:

- a general description of the vessel in question,
- conceptual design and manufacturing drawings and diagrams of components, sub-assemblies, circuits, etc.,
- descriptions and explanations necessary for an understanding of the said drawings and diagrams and the operation of the vessel,
- a description of the solutions adopted to meet the relevant requirements of these Regulations,
- the necessary supporting evidence for the adequacy of the design solution; this supporting evidence must include the results of tests carried out by the appropriate laboratory of the manufacturer or on his behalf,
- results of the design calculations made, examinations carried out, etc.,
- information regarding qualifications or approvals.

4. The notified body must:

4.1 examine the technical documentation and identify the components which have been designed in accordance with the relevant provisions of these Regulations and in particular must:

- assess the materials used where these are not in conformity with the relevant provisions of these Regulations,
- approve the procedures for the permanent joining of transportable pressure vessel parts or check that they have been previously approved,
- verify that the staff undertaking the permanent joining of pressure vessel parts and the non-destructive tests are qualified or approved;

4.2 perform the necessary examinations to establish whether the solutions adopted by the manufacturer meet the relevant requirements of these Regulations;

4.3 perform the necessary examinations to establish whether the relevant provisions of these Regulations have actually been applied.

5. Where the design meets the provisions of these Regulations which apply to it, the notified body must issue an EC type-examination certificate to the applicant. The certificate must contain the name and address of the applicant, the conclusions of the examination, conditions for its validity and the necessary data for identification of the approved design.

A list of the relevant parts of the technical documentation must be annexed to the certificate and a copy kept by the notified body.

If the notified body refuses to issue an EC type-examination certificate to the manufacturer or to his authorised representative established within the Community, that body must provide detailed reasons for such refusal. Provision must be made for an appeals procedure.

6. The applicant must inform the notified body that holds the technical documentation concerning the EC type-examination certificate of all modifications to the approved design; these are subject to additional approval where they may affect conformity with the requirements of the Regulations or the prescribed conditions for use of the vessel. This additional approval must be given in the form of an addition to the original EC type-examination certificate.

7. Each notified body must communicate to the member States the relevant information concerning EC design-examination certificates which it has withdrawn, and, on request, those it has issued.

Each notified body must also communicate to the other notified bodies the relevant information concerning the EC type-examination certificates it has withdrawn or refused.

8. The other notified bodies may on request obtain the relevant information concerning:

- the EC design-examination certificates and additions granted,
- the EC design-examination certificates and additions withdrawn.

9. The manufacturer, or his authorised representative established within the Community, must keep with the technical documentation referred to in paragraph 3, copies of EC design-examination certificates and their additions for a period of 10 years after the last of the transportable pressure vessels have been manufactured.

Where neither the manufacturer nor his authorised representative is established within the Community, the obligation to keep the technical documentation available is the responsibility of the person who places the product on the market.

### **Module C1—conformity to type**

1. This module describes that part of the procedure whereby the manufacturer, or his authorised representative established within the Community, ensures and declares that certain transportable pressure vessels are in conformity with the type as described in the EC type-examination certificate and satisfy the requirements of these Regulations. The manufacturer, or his authorised representative established within the Community, must affix the conformity marking to all such transportable pressure vessels and draw up a written declaration of conformity.

2. The manufacturer must take all measures necessary to ensure that the manufacturing process requires the manufactured transportable pressure vessels to comply with the type as described in the EC type-examination certificate and with the relevant requirements of these Regulations.

3. The manufacturer, or his authorised representative established within the Community, must keep a copy of the declaration of conformity for a period of 10 years after the last of the transportable pressure vessels have been manufactured.

Where neither the manufacturer nor his authorised representative is established within the Community, the obligation to keep the technical documentation available is the responsibility of the person who places the transportable pressure vessels on the market.

4. Final assessment must be subject to monitoring in the form of unexpected visits by a notified body chosen by the manufacturer.

During such visits, the notified body must:

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- ensure that the manufacturer actually performs the final assessment,
- take samples of transportable pressure vessels at the manufacturing or storage premises in order to conduct checks. The notified body assesses the number of items to sample and whether it is necessary to perform, or have performed, all or part of the final assessment of the samples.

Should one or more of the transportable pressure vessels not conform, the notified body must take appropriate measures.

On the responsibility of the notified body, the manufacturer must affix that body's identification number to each transportable pressure vessel.

#### **Module D—production quality assurance**

1. This module describes the procedure whereby the manufacturer who satisfies the obligations of paragraph 2 ensures and declares that the transportable pressure vessels concerned are in conformity with the type described in the EC type-examination certificate or EC design-examination certificate and satisfy the relevant requirements of these Regulations. The manufacturer, or his authorised representative established within the Community, must affix the conformity marking to all such transportable pressure vessels and draw up a written declaration of conformity. The conformity marking must be accompanied by the identification number of the notified body responsible for surveillance as specified in paragraph 4.

2. The manufacturer must operate an approved quality system for production, final inspection and testing as specified in paragraph 3 and be subject to surveillance as specified in paragraph 4.

##### *3. Quality system*

3.1 The manufacturer must lodge an application for assessment of his quality system with a notified body of his choice and the application must include:

- all relevant information on the transportable pressure vessels concerned,
- the documentation concerning the quality system,
- the technical documentation for the approved type and a copy of the EC type-examination certificate or EC design-examination certificate.

3.2 The quality system must ensure compliance of the transportable pressure vessels with the type described in the EC type-examination certificate or EC design-examination certificate and with the relevant requirements of these Regulations.

All the elements, requirements and provisions adopted by the manufacturer must be documented in a systematic and orderly manner in the form of written policies, procedures and instructions. The quality system documentation must permit a consistent interpretation of the quality programmes, plans, manuals and records.

It must contain in particular an adequate description of:

- the quality objectives and the organisational structure, responsibilities and powers of the management with regard to the quality of the transportable pressure vessels,
- the manufacturing, quality control and quality assurance techniques, processes and systematic measures that will be used, particularly the procedures used,
- the examinations and tests that will be carried out before, during and after manufacture, and the frequency with which they will be carried out,
- the quality records, such as inspection reports and test data, calibration data, reports concerning the qualifications or approvals of the personnel concerned,
- the means of monitoring the achievement of the required quality and the effective operation of the quality system.

3.3 The notified body must assess the quality system to determine whether it satisfies the requirements referred to in paragraph 3.2.

The auditing team must have at least one member with experience of assessing the transportable pressure vessels concerned. The assessment procedure must include an inspection visit to the manufacturer's premises.

The decision must be notified to the manufacturer. The notification must contain the conclusions of the examination and the reasoned assessment decision. Provision must be made for an appeals procedure.

3.4 The manufacturer must undertake to fulfil the obligations arising out of the quality system as approved and to ensure that it remains satisfactory and efficient.

The manufacturer, or his authorised representative established within the Community, must inform the notified body that has approved the quality system of any intended adjustment to the quality system.

The notified body must assess the proposed changes and decide whether the amended quality system will still satisfy the requirements referred to in paragraph 3.2 or whether a reassessment is required.

It must notify its decision to the manufacturer. The notification must contain the conclusions of the examination and the reasoned assessment decision.

#### 4. *Surveillance under the responsibility of the notified body*

4.1 The purpose of surveillance is to ensure that the manufacturer duly fulfils the obligations arising out of the approved quality system.

4.2 The manufacturer must allow the notified body access for inspection purposes to the locations of manufacture, inspection, testing and storage and provide it with all necessary information, in particular:

- the quality system documentation,
- the quality records, such as inspection reports and test data, calibration data, reports concerning the qualifications of the personnel concerned, etc.

4.3 The notified body must carry out periodic audits to make sure that the manufacturer maintains and applies the quality system and provide the manufacturer with an audit report. The frequency of periodic audits must be such that a full reassessment is carried out every three years.

4.4 In addition, the notified body may pay unexpected visits to the manufacturer. The need for such additional visits, and the frequency thereof, will be determined on the basis of a visit control system operated by the notified body. In particular, the following factors must be considered in the visit control system:

- the category of the vessels,
- the results of previous surveillance visits,
- the need to follow up corrective action,
- where applicable, special conditions linked to the approval of the system,
- significant changes in manufacturing organisation, policy or techniques.

During such visits the notified body may, if necessary, carry out tests, or have them carried out, to verify that the quality system is functioning correctly. The notified body must provide the manufacturer with a visit report and, if a test has taken place, with a test report.

5. The manufacturer must, for a period of 10 years after the last of the transportable pressure vessels have been manufactured, hold at the disposal of the Executive:

- the documentation referred to in the second indent of paragraph 3.1,

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- the adjustments referred to in the second sub-paragraph of paragraph 3.4,
- the decisions and reports from the notified body which are referred to in the last sub-paragraph of paragraph 3.3, in the last sub-paragraph of paragraph 3.4, and in paragraphs 4.3 and 4.4.

6. Each notified body must communicate to the member States the relevant information concerning the quality system approvals which it has withdrawn, and, on request, those it has issued.

Each notified body must also communicate to the other notified bodies the relevant information concerning the quality system approvals it has withdrawn or refused.

### **Module D1—production quality assurance**

1. This module describes the procedure whereby the manufacturer who satisfies the obligations of paragraph 3 ensures and declares that the transportable pressure vessels concerned satisfy the relevant requirements of these Regulations. The manufacturer, or his authorised representative established within the Community, must affix the conformity marking to all such transportable pressure vessels and draw up a written declaration of conformity. The conformity marking must be accompanied by the identification number of the notified body responsible for surveillance as specified in paragraph 5.

2. The manufacturer must draw up the technical documentation described below. The technical documentation must enable an assessment to be made of the conformity of the transportable pressure vessels with the requirements of these Regulations. It must, as far as is relevant for such assessment, cover the design, manufacture and operation of the transportable pressure vessels and contain:

- a general description of the equipment in question,
- conceptual design and manufacturing drawings and diagrams of components, sub-assemblies, circuits, etc.,
- descriptions and explanations necessary for an understanding of the said drawings and diagrams and the operation of the vessels,
- a description of the solutions adopted to meet the relevant requirements of these Regulations,
- results of the design calculations made, examinations carried out, etc.,
- test reports.

3. The manufacturer must operate an approved quality system for production, final inspection and testing as specified in paragraph 4 and be subject to surveillance as specified in paragraph 5.

#### *4. Quality system*

4.1 The manufacturer must lodge an application for assessment of his quality system with a notified body of his choice.

The application must include:

- all relevant information on the transportable pressure vessels concerned,
- the documentation concerning the quality system.

4.2 The quality system must ensure compliance of the transportable pressure vessels with relevant requirements of these Regulations.

All the elements, requirements and provisions adopted by the manufacturer must be documented in a systematic and orderly manner in the form of written policies, procedures and instructions. The quality system documentation must permit a consistent interpretation of the quality programmes, plans, manuals and records.

It must contain in particular an adequate description of:



- the quality objectives and the organisational structure, responsibilities and powers of the management with regard to the quality of the transportable pressure vessels,
- the manufacturing, quality control and quality assurance techniques, processes and systematic measures that will be used,
- the examinations and tests that will be carried out before, during and after manufacture, and the frequency with which they will be carried out,
- the quality records, such as inspection reports and test data, calibration data, reports concerning the qualifications or approvals of the personnel concerned,
- the means of monitoring the achievement of the required quality and the effective operation of the quality system.

4.3 The notified body must assess the quality system to determine whether it satisfies the requirements referred to in paragraph 4.2.

The auditing team must have at least one member with experience of assessing the transportable pressure vessels concerned. The assessment procedure must include an inspection visit to the manufacturer's premises.

The decision must be notified to the manufacturer. The notification must contain the conclusions of the examination and the reasoned assessment decision. Provision must be made for an appeals procedure.

4.4 The manufacturer must undertake to fulfil the obligations arising out of the quality system as approved and to ensure that it remains satisfactory and efficient.

The manufacturer, or his authorised representative established within the Community, must inform the notified body that has approved the quality system of any intended adjustment to the quality system.

The notified body must assess the proposed changes and decide whether the amended quality system will still satisfy the requirements referred to in paragraph 4.2 or whether a reassessment is required.

It must notify its decision to the manufacturer. The notification must contain the conclusions of the examination and the reasoned assessment decision.

#### *5. Surveillance under the responsibility of the notified body*

5.1 The purpose of surveillance is to make sure that the manufacturer duly fulfils the obligations arising out of the approved quality system.

5.2 The manufacturer must allow the notified body access for inspection purposes to the locations of manufacture, inspection, testing and storage and provide it with all necessary information, in particular:

- the quality system documentation,
- the quality records, such as inspection reports and test data, calibration data, reports concerning the qualifications of the personnel concerned, etc.

5.3 The notified body must carry out periodic audits to make sure that the manufacturer maintains and applies the quality system and provide the manufacturer with an audit report. The frequency of periodic audits must be such that a full reassessment is carried out every three years.

5.4 In addition, the notified body may pay unexpected visits to the manufacturer. The need for such additional visits, and the frequency thereof, will be determined on the basis of a visit control system operated by the notified body. In particular, the following factors must be considered in the visit control system:

- the category of the vessels,

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- the results of previous surveillance visits,
- the need to follow up corrective action,
- where applicable, special conditions linked to the approval of the system,
- significant changes in manufacturing organisation, policy or techniques.

During such visits the notified body may, if necessary, carry out tests, or have them carried out, to verify that the quality system is functioning correctly. The notified body must provide the manufacturer with a visit report and, if a test has taken place, with a test report.

6. The manufacturer must, for a period of 10 years after the last of the transportable pressure vessels have been manufactured, hold at the disposal of the Executive:

- the documentation referred to in paragraph 2,
- the documentation referred to in the second indent of paragraph 4.1,
- the adjustments referred to in the second sub-paragraph of paragraph 4.4,
- the decisions and reports from the notified body which are referred to in the last sub-paragraph of paragraph 4.3, in the last sub-paragraph of paragraph 4.4, and in paragraphs 5.3 and 5.4.

7. Each notified body must communicate to the member States the relevant information concerning the quality system approvals which it has withdrawn, and, on request, those it has issued.

Each notified body must communicate to the other notified bodies the relevant information concerning the quality system approvals it has withdrawn or refused.

### **Module E—product quality assurance**

1. This module describes the procedure whereby the manufacturer who satisfies the obligations of paragraph 2 ensures and declares that the transportable pressure vessel is in conformity with the type as described in the EC type-examination certificate and satisfies the relevant requirements of these Regulations. The manufacturer, or his authorised representative established within the Community, must affix the conformity marking to each product and draw up a written declaration of conformity. The conformity marking must be accompanied by the identification number of the notified body responsible for surveillance as specified in paragraph 4.

2. The manufacturer must operate an approved quality system for production, final inspection and testing as specified in paragraph 3 and be subject to surveillance as specified in paragraph 4.

#### *Quality system*

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3.1 The manufacturer must lodge an application for assessment of his quality system with a notified body of his choice.

The application must include:

- all relevant information on the transportable pressure vessels concerned,
- the documentation concerning the quality system,
- the technical documentation for the approval type and a copy of the EC type-examination certificate.

3.2 Under the quality system, each transportable pressure vessel must be examined and appropriate tests must be carried out in order to ensure its conformity with the relevant requirements of these Regulations. All the elements, requirements and provisions adopted by the manufacturer must be documented in a systematic and orderly manner in the form of written policies, procedures

and instructions. The quality system documentation must permit a consistent interpretation of the quality programmes, plans, manuals and records.

It must contain in particular an adequate description of:

- the quality objectives and the organisational structure, responsibilities and powers of the management with regard to the quality of the transportable pressure vessels,
- the examinations and tests to be carried out after manufacture,
- the means of monitoring the effective operation of the quality system,
- the quality records, such as inspection reports and test data, calibration data, reports concerning the qualifications or approvals of the personnel concerned.

3.3 The notified body must assess the quality system to determine whether it satisfies the requirements referred to in paragraph 3.2.

The auditing team must have at least one member with experience of assessing the transportable pressure vessels concerned. The assessment procedure must include an inspection visit to the manufacturer's premises.

The decision must be notified to the manufacturer. The notification must contain the conclusions of the examination and the reasoned assessment decision. Provision must be made for an appeals procedure.

3.4 The manufacturer must undertake to fulfil the obligations arising out of the quality system as approved and to ensure that it remains satisfactory and efficient.

The manufacturer, or his authorised representative established within the Community, must inform the notified body that has approved the quality system of any intended adjustment to the quality system.

The notified body must assess the proposed changes and decide whether the amended quality system will still satisfy the requirements referred to in paragraph 3.2 or whether a reassessment is required.

It must notify its decision to the manufacturer. The notification must contain the conclusions of the examination and the reasoned assessment decision.

#### *Surveillance under the responsibility of the notified body*

4

4.1 The purpose of surveillance is to ensure that the manufacturer duly fulfils the obligations arising out of the approved quality system.

4.2 The manufacturer must allow the notified body access for inspection purposes to the locations of manufacture, inspection, testing and storage and provide it with all necessary information, in particular:

- the quality system documentation,
- the technical documentation,
- the quality records, such as inspection reports and test data, calibration data, reports concerning the qualifications of the personnel concerned, etc.

4.3 The notified body must carry out periodic audits to make sure that the manufacturer maintains and applies the quality system and provide the manufacturer with an audit report. The frequency of periodic audits must be such that a full reassessment is carried out every three years.

4.4 In addition, the notified body may pay unexpected visits to the manufacturer. The need for such additional visits, and the frequency thereof, will be determined on the basis of a visit control

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system operated by the notified body. In particular, the following factors must be considered in the visit control system:

- the category of the vessel,
- the results of previous surveillance visits,
- the need to follow up corrective action,
- where applicable, special conditions linked to the approval of the system,
- significant changes in manufacturing organisation, policy or techniques.

During such visits the notified body may, if necessary, carry out tests, or have them carried out, to verify that the quality system is functioning correctly. The notified body must provide the manufacturer with a visit report and, if a test has taken place, with a test report.

5. The manufacturer must, for a period of 10 years after the last of the transportable pressure vessels have been manufactured, hold at the disposal of the Executive:

- the documentation referred to in the second indent of paragraph 3.1,
- the adjustments referred to in the second sub-paragraph of paragraph 3.4,
- the decisions and reports from the notified body which are referred to in the last sub-paragraph of paragraph 3.3, in the last sub-paragraph of paragraph 3.4, and in paragraphs 4.3 and 4.4.

6. Each notified body must communicate to the member States the relevant information concerning the quality system approvals which it has withdrawn, and, on request, those it has issued.

Each notified body must also communicate to the other notified bodies the relevant information concerning the quality system approvals it has withdrawn or refused.

### **Module E1—production quality assurance**

1. This module describes the procedure whereby the manufacturer who satisfies the obligations of paragraph 3 ensures and declares that the transportable pressure vessels satisfy the relevant requirements of these Regulations. The manufacturer, or his authorised representative established within the Community, must affix the conformity marking to each transportable pressure vessel and draw up a written declaration of conformity. The conformity marking must be accompanied by the identification number of the notified body responsible for surveillance as specified in paragraph 5.

2. The manufacturer must draw up the technical documentation described below.

The technical documentation must enable an assessment to be made of the conformity of the transportable pressure vessels with the relevant requirements of these Regulations. It must, as far as is relevant for such assessment, cover the design, manufacture and operation of the transportable pressure vessels and contain:

- a general description of the vessels in question,
- conceptual design and manufacturing drawings and diagrams of components, sub-assemblies, circuits, etc.,
- descriptions and explanations necessary for an understanding of the said drawings and diagrams and the operation of the vessels,
- a description of the solutions adopted to meet the requirements of these Regulations,
- results of the design calculations made, examinations carried out, etc.,
- test reports.

3. The manufacturer must operate an approved quality system for the final transportable pressure vessel inspection and testing as specified in paragraph 4 and be subject to surveillance as specified in paragraph 5.

## *Quality system*

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4.1 The manufacturer must lodge an application for assessment of his quality system with a notified body of his choice.

The application must include:

- all relevant information on the transportable pressure vessels concerned,
- the documentation concerning the quality system.

4.2 Under the quality system, each transportable pressure vessel must be examined and appropriate tests must be carried out in order to ensure its conformity with the relevant requirements of these Regulations. All the elements, requirements and provisions adopted by the manufacturer must be documented in a systematic and orderly manner in the form of written policies, procedures and instructions. The quality system documentation must permit a consistent interpretation of the quality programmes, plans, manuals and records.

It must contain in particular an adequate description of:

- the quality objectives and the organisational structure, responsibilities and powers of the management with regard to the quality of the transportable pressure vessels,
- the procedures used for the joining of parts,
- the examinations and tests to be carried out after manufacture,
- the means of monitoring the effective operation of the quality system,
- the quality records, such as inspection reports and test data, calibration data, reports concerning the qualifications or approvals of the staff concerned.

4.3 The notified body must assess the quality system to determine whether it satisfies the requirements referred to in paragraph 4.2.

The auditing team must have at least one member with experience of assessing the transportable pressure vessels concerned. The assessment procedure must include an inspection visit to the manufacturer's premises.

The decision must be notified to the manufacturer. The notification must contain the conclusions of the examination and the reasoned assessment decision. Provision must be made for an appeals procedure.

4.4 The manufacturer must undertake to discharge the obligations arising from the quality system as approved and to ensure that it remains satisfactory and efficient.

The manufacturer, or his authorised representative established within the Community, must inform the notified body which has approved the quality system of any intended adjustment to the quality system.

The notified body must assess the proposed changes and decide whether the modified quality system will still satisfy the requirements referred to in paragraph 4.2 or whether a reassessment is required.

It must notify its decision to the manufacturer. The notification must contain the conclusions of the examination and the reasoned assessment decision.

## *Surveillance under the responsibility of the notified body*

5

5.1 The purpose of surveillance is to ensure that the manufacturer duly fulfils the obligations arising out of the approved quality system.

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5.2 The manufacturer must allow the notified body access for inspection purposes to the locations of manufacture, inspection, testing and storage and provide it with all necessary information, in particular:

- the quality system documentation,
- the technical documentation,
- the quality records, such as inspection reports and test data, calibration data, reports concerning the qualifications of the personnel concerned, etc.

5.3 The notified body must carry out periodic audits to make sure that the manufacturer maintains and applies the quality system and provide the manufacturer with an audit report. The frequency of periodic audits must be such that a full reassessment is carried out every three years.

5.4 In addition, the notified body may pay unexpected visits to the manufacturer. The need for such additional visits, and the frequency thereof, will be determined on the basis of a visit control system operated by the notified body. In particular, the following factors must be considered in the visit control system:

- the category of the vessels,
- the results of previous surveillance visits,
- the need to follow up corrective action,
- where applicable, special conditions linked to the approval of the system,
- significant changes in manufacturing organisation, policy or techniques.

During such visits the notified body may, if necessary, carry out tests, or have them carried out, to verify that the quality system is functioning correctly. The notified body must provide the manufacturer with a visit report and, if a test has taken place, with a test report.

6. The manufacturer must, for a period of 10 years after the last of the transportable pressure vessels have been manufactured, hold at the disposal of the Executive:

- the documentation referred to in paragraph 2,
- the documentation referred to in the second indent of paragraph 4.1,
- the adjustments referred to in the second sub-paragraph of paragraph 4.4,
- the decisions and reports from the notified body which are referred to in the last sub-paragraph of paragraph 4.3, in the last sub-paragraph of paragraph 4.4, and in paragraphs 5.3 and 5.4.

7. Each notified body must communicate to the member States the relevant information concerning the quality system approvals which it has withdrawn, and, on request, those it has issued.

Each notified body must communicate to the other notified bodies the relevant information concerning the quality system approvals it has withdrawn or refused.

## **Module F—product verification**

1. This module describes the procedure whereby a manufacturer, or his authorised representative established within the Community, ensures and declares that the transportable pressure vessels subject to the provisions of paragraph 3 are in conformity with the type described:

- in the EC type-examination certificate, or
- in the EC design-examination certificate,

and satisfy the relevant requirements of these Regulations.

2. The manufacturer must take all measures necessary to ensure that the manufacturing process requires the transportable pressure vessels to comply with the type described:

- in the EC type-examination certificate, or
- in the EC design-examination certificate,

and with the relevant requirements of these Regulations.

The manufacturer, or his authorised representative established within the Community, must affix the conformity marking to all transportable pressure vessels and draw up a declaration of conformity.

3. The notified body must perform the appropriate examinations and tests in order to check the conformity of the transportable pressure vessels with the relevant requirements of these Regulations by examining and testing every product in accordance with paragraph 4.

The manufacturer, or his authorised representative established within the Community, must keep a copy of the declaration of conformity for a period of 10 years after the last of the transportable pressure vessels have been manufactured.

#### *Verification by examination and testing of each transportable pressure vessel*

4

4.1 Each transportable pressure vessel must be individually examined and must undergo appropriate examinations and tests in order to verify that it conforms to the type and the relevant requirements of these Regulations.

In particular, the notified body must:

- verify that the personnel undertaking the permanent joining of parts and the non-destructive tests are qualified or approved,
- check the certificate issued by the materials manufacturer,
- carry out the final inspection and proof test or have them carried out and, where appropriate, examine the safety devices.

4.2 The notified body must affix its identification number or have it affixed to each transportable pressure vessel and draw up a written certificate of conformity relating to the tests carried out.

4.3 The manufacturer, or his authorised representative established within the Community, must ensure that the certificates of conformity issued by the notified body can be made available on request.

#### **Module G—EC unit verification**

1. This module describes the procedure whereby the manufacturer ensures and declares that transportable pressure vessels which have been issued with the certificate referred to in paragraph 4.1 satisfy the relevant requirements of these Regulations. The manufacturer, or his authorised representative established within the Community, must affix the conformity marking to the vessels and draw up a declaration of conformity.

2. The manufacturer must apply to a notified body of his choice for unit verification. The application must contain:

- the name and address of the manufacturer and the location of the transportable pressure vessels,
- a written declaration to the effect that a similar application has not been lodged with another notified body,
- technical documentation.

3. The technical documentation must enable the conformity of the transportable pressure vessels with the relevant requirements of these Regulations to be assessed and the design, manufacture and operation of the transportable pressure vessels to be understood.

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The technical documentation must contain:

- a general description of the vessels in question,
- conceptual design and manufacturing drawings and diagrams of components, sub-assemblies, circuits, etc.,
- descriptions and explanations necessary for an understanding of the said drawings and diagrams and the operation of the vessels,
- results of design calculations made, examinations carried out, etc.,
- test reports,
- appropriate details relating to the approval of the manufacturing and test procedures and of the qualifications or approvals of the staff concerned.

4. The notified body must examine the design and construction of each transportable pressure vessel and during manufacture perform appropriate tests to ensure its conformity with the relevant requirements of these Regulations.

4.1 The notified body must affix its identification number or have it affixed to each transportable pressure vessel and draw up a certificate of conformity for the tests carried out. This certificate must be kept for a period of 10 years.

4.2 The manufacturer, or his authorised representative established within the Community, must ensure that the declaration of conformity and certificate of conformity issued by the notified body can be made available on request.

In particular, the notified body must:

- examine the technical documentation with respect to the design and the manufacturing procedures,
- assess the materials used where these are not in conformity with the relevant provisions of these Regulations and check the certificate issued by the materials manufacturer,
- approve the procedures for the permanent joining of pressure vessel parts,
- verify the qualifications or approvals required,
- perform the final inspection, perform the proof test or have it performed and examine the safety devices if applicable.

#### **Module H—full quality assurance**

1. This module describes the procedure whereby the manufacturer who satisfies the obligations of paragraph 2 ensures and declares that the transportable pressure vessels in question satisfy the relevant requirements of these Regulations. The manufacturer, or his authorised representative established within the Community, must affix the conformity marking to each transportable pressure vessel and draw up a written declaration of conformity. The conformity marking must be accompanied by the identification number of the notified body responsible for the surveillance referred to in paragraph 4.

2. The manufacturer must implement an approved quality system for design, manufacture, final inspection and testing as specified in paragraph 3 and be subject to surveillance as specified in paragraph 4.

#### *Quality system*

3



3.1 The manufacturer must lodge an application for assessment of his quality system with a notified body of his choice.

The application must include:

- all relevant information concerning the transportable pressure vessels in question,
- the documentation concerning the quality system.

3.2 The quality system must ensure compliance of the transportable pressure vessel with the relevant requirements of these Regulations.

All the elements, requirements and provisions adopted by the manufacturer must be documented in a systematic and orderly manner in the form of written policies, procedures and instructions. The quality system documentation must permit a consistent interpretation of the procedural and quality measures such as programmes, plans, manuals and records.

It must contain in particular an adequate description of:

- the quality objectives and the organisational structure, responsibilities and powers of the management with regard to the quality of the design and to product quality,
- the technical design specifications, including standards, that will be applied,
- the design control and design verification techniques, processes and systematic measures that will be used when designing the transportable pressure vessels,
- the corresponding manufacturing, quality control and quality assurance techniques, processes and systematic measures that will be used,
- the examinations and tests to be carried out before, during and after manufacture, and the frequency with which they will be carried out,
- the quality records, such as inspection reports and test data, calibration data, reports concerning the qualifications or approvals of the personnel concerned,
- the means of monitoring the achievement of the required transportable pressure vessel design and quality and the effective operation of the quality system.

3.3 The notified body must assess the quality system to determine whether it satisfies the requirements referred to in paragraph 3.2.

The auditing team must have at least one member with experience of assessing the transportable pressure vessels concerned. The assessment procedure must include an inspection visit to the manufacturer's premises.

The decision must be notified to the manufacturer. The notification must contain the conclusions of the examination and the reasoned assessment decision. Provision must be made for an appeals procedure.

3.4 The manufacturer must undertake to fulfil the obligations arising out of the quality system as approved and to ensure that it remains satisfactory and efficient.

The manufacturer, or his authorised representative established within the Community, must inform the notified body that has approved the quality system of any intended adjustment to the quality system.

The notified body must assess the proposed changes and decide whether the modified quality system will still satisfy the requirements referred to in paragraph 3.2 or whether a reassessment is required.

It must notify its decision to the manufacturer. The notification must contain the conclusions of the examination and the reasoned assessment decision.

#### 4. *Surveillance under the responsibility of the notified body*

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4.1 The purpose of this surveillance is to ensure that the manufacturer duly fulfils the obligations arising out of the approved quality system.

4.2 The manufacturer must allow the notified body access for inspection purposes to the locations of design, manufacture, inspection, testing and storage and provide it with all necessary information, in particular:

- the quality system documentation,
- the quality records provided for in the design part of the quality system, such as results of analyses, calculations, tests, etc.,
- the quality records provided for in the manufacturing part of the quality system, such as inspection reports and test data, calibration data, reports concerning the qualifications of the staff concerned, etc.

4.3 The notified body must carry out periodic audits to make sure that the manufacturer maintains and applies the quality system and provide the manufacturer with an audit report. The frequency of periodic audits must be such that a full reassessment is carried out every three years.

4.4 In addition, the notified body may pay unexpected visits to the manufacturer. The need for such additional visits, and the frequency thereof, will be determined on the basis of a visit control system operated by the notified body. In particular the following factors must be considered in the visit control system:

- the category of the vessel,
- the results of previous surveillance visits,
- the need to follow up corrective action,
- where applicable, special conditions linked to the approval of the system,
- significant changes in manufacturing organisation, policy or techniques.

During such visits the notified body may, if necessary, carry out tests, or have them carried out, to verify that the quality system is functioning correctly. The notified body must provide the manufacturer with a visit report and, if a test has taken place, with a test report.

5. The manufacturer must, for a period of 10 years after the last of the transportable pressure vessels have been manufactured, keep at the disposal of the Executive:

- the documentation referred to in the second indent of the second sub-paragraph of paragraph 3.1,
- the adjustments referred to in the second sub-paragraph of paragraph 3.4,
- the decisions and reports from the notified body which are referred to in the last sub-paragraph of paragraph 3.3, in the last sub-paragraph of paragraph 3.4, and in paragraphs 4.3 and 4.4.

6. Each notified body must communicate to the member States the relevant information concerning the quality system approvals which it has withdrawn, and, on request, those it has issued.

Each notified body must also communicate to the other notified bodies the relevant information concerning the quality system approvals it has withdrawn or refused.

#### **Module H1—full quality assurance with design examination and special surveillance of the final test**

1. In addition to the requirements of Module H, the following apply:

- (a) the manufacturer must lodge an application for examination of the design with the notified body,

- (b) the application must enable the design, manufacture and operation of the transportable pressure vessel to be understood, and enable conformity with the relevant requirements of these Regulations to be assessed.

It must include:

- the technical design specifications, including standards, which have been applied,
- the necessary supporting evidence for their adequacy. This supporting evidence must include the results of tests carried out by the appropriate laboratory of the manufacturer or on his behalf,
- (c) the notified body must examine the application and where the design meets the relevant provisions of these Regulations issue an EC design-examination certificate to the applicant. The certificate must contain the conclusions of the examination, the conditions for its validity, the necessary data for identification of the approved design and, if relevant, a description of the functioning of the transportable pressure vessel,
- (d) the applicant must inform the notified body that it has issued the EC design-examination certificate of all modifications to the approved design. Modifications to the approved design must receive additional approval from the notified body that issued the EC design-examination certificate where they may affect conformity with the relevant requirements of these Regulations or the prescribed conditions for use of the transportable pressure vessel. This additional approval must be given in the form of an addition to the original EC design-examination certificate,
- (e) each notified body must also communicate to the other notified bodies the relevant information concerning the EC design-examination certificates it has withdrawn or refused.

2. Final assessment is subject to increased surveillance in the form of unexpected visits by the notified body. In the course of such visits, the notified body must conduct examinations on the transportable pressure vessels.