

# Code of Practice for the approval of joining personnel under the provisions of the UK Pressure Equipment Safety Regulations.

*Revision: 01*



# Table of Contents

REVISION: FINAL DRAFT .....	2
<b><u>FOREWORD.....</u></b>	<b><u>4</u></b>
<b><u>PROBLEM.....</u></b>	<b><u>5</u></b>
<b><u>SCOPE .....</u></b>	<b><u>5</u></b>
<b><u>1 - TERMS AND DEFINITIONS.....</u></b>	<b><u>6</u></b>
<b><u>2 – GENERAL .....</u></b>	<b><u>7</u></b>
<b><u>3 - APPROVAL OF JOINING PERSONNEL REQUIREMENTS .....</u></b>	<b><u>8</u></b>
<b><u>4 - APPROVAL ATTESTATION .....</u></b>	<b><u>10</u></b>
<b><u>5 - RENEWAL OF APPROVALS .....</u></b>	<b><u>11</u></b>
<b><u>6 – CERTIFICATION SCHEME .....</u></b>	<b><u>11</u></b>
<b><u>7 – INTERESTED PARTY.....</u></b>	<b><u>12</u></b>
<b><u>ANNEX A.....</u></b>	<b><u>14</u></b>

## Foreword

This document has been prepared by a working group drawn from members of the UK Pressure Equipment Conformity Assessment Bodies community.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights.

Paragraph 21(3) of Schedule 2 to the Pressure Equipment (Safety) Regulations 2016 as they apply in Great Britain requires that for pressure equipment, permanent joining of components which contribute to the pressure resistance of equipment and components which are directly attached to them must be carried out by suitably qualified personnel according to suitable operating procedures, and that for pressure equipment in categories II, III and IV, operating procedures and personnel must be approved by a competent third party which, at the manufacturer's discretion, may be:

1. A UK Approved body
2. A UK Recognised Third Party Organisation.

As a result, this Code of Practice (CoP) has been developed to provide a consistent approach to the use and acceptance of joining personnel approvals not subject to original approval by the organisations listed in bullet points 1 and 2 above.

The purpose of applying this approach is to reduce any unfavorable burdens on manufacturers placing pressure equipment on the Great Britain market and to recognise multilateral agreements and international accreditations relevant to the subject.

## Problem

How can joining operators, holding approvals which are not recognised under the Pressure Equipment Directive and or the Pressure Equipment (Safety) Regulations 2016 (PESR) as they apply to Great Britain for UKCA marking, be accepted for pressure equipment being built for or imported into the GB market.

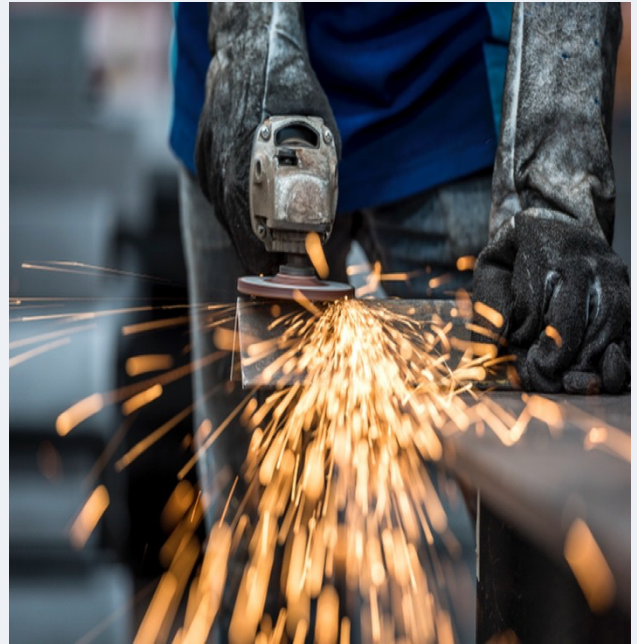
## Scope

This Technical CoP provides a methodology for the approval of joining personnel under Paragraph 21(3) of Schedule 2 to the Pressure Equipment (Safety) Regulations 2016 as they apply to Great Britain.

The EU Pressure Equipment Directive 2014/68/EU (PED) Guidelines (which until any divergence between the PESR and the EU Directive can be regarded as best practice in the UK) F-01, F-04, F-11 and F-12 are included to ensure a consistent approach and a high level of confidence in the approval of joining personnel by UK approved bodies.

Note! With reference to note 1 of Guideline F-01 it is considered that the UK Approved Body / RTPO has “attended part of the process” of providing personnel certification by verifying and validating the data from an appropriate and acceptable source.

A flow diagram illustrating this methodology can be found at Annex A.



# 1 - Terms and definitions

For the purposes of this Code of Practice, the following terms and definitions apply.

## 1.1 Recognised Third Party Organization (RTPO)

- a. A UK Recognised Third Party Organisation.
- b. A UK Approved body (AB).

Note 1.

Where reference is made to AB in this guidance it equally should be read as including (UK) RTPO and vice versa.

Note 2.

The organisations described below do not fit the definition of a UK AB or RTPO.

A body recognised by a member state of the European Union or EFTA countries for the purposes of the tasks referred to in Directive 2014/68/EU, Article 20 Annex 1, section 3.1.2, namely the 'approval' of joining personnel to produce permanent joints for pressure equipment in categories II, III and IV, and whose personnel has been notified to the European Commission or EFTA countries and the other Member States or

A body internationally recognised as an independent third-party organisation, duly accredited against the applicable codes and standards by a national accreditation body being a member of the International Accreditation Forum and holding the appropriate scope.

## 1.2 Approval of Joining Personnel

A procedure used to demonstrate the competence of an individual to produce permanent joints for pressure equipment in categories II, III and IV.

## 1.3 Approval attestation

A documented statement or certificate issued by an internationally recognised independent third-party organisation, duly accredited against the applicable codes and standards by a national accreditation body being a member of the International Accreditation Forum confirming that a specified individual is approved (see 1.2).

## 1.4 Qualification

A demonstration of physical attributes, knowledge, skill, training, and experience required to properly perform joining tasks.

## 1.5 Certification

A procedure used by the certification body to confirm that the qualification requirements for a permanent joint have been fulfilled, according to the applicable codes and standards leading to the issuing of a certificate.

## 1.6 Relevant sector

A particular section of industry or technology where specialised Permanent Joining practices are used, requiring specific product-related knowledge, skill, equipment, and training.

Note 1 - A sector can be interpreted to mean a product (welded products, castings) or an industry (aerospace, in-service testing).

## 1.7 Permanent joints

Joints which cannot be disconnected except by destructive methods e.g., made by fusion welding, brazing, braze welding, expansion, rolling etc.

## 1.8 Independent Verification and Validation (IV&V).

1.8.1 IV&V are independent procedures that are used together for checking that a product, service, or system meets the stated requirements and specifications and that it fulfils its intended purpose.

1.8.2 Independent Verification. The evaluation of whether or not a product, service, or system complies with a regulation, requirement, specification, or imposed condition. It is often an internal process.

1.8.3 Independent Validation. The assurance that a product, service, or system meets the needs of the customer and other identified stakeholders. It often involves acceptance and suitability with external customers.

## 1.9 Accreditation to BS EN ISO/IEC 17024:2012

It is a pre-requisite that UK Abs / RTPO's, appointed under the regulations that apply in Great Britain, intending to undertake activities in accordance with this code of practice shall be accredited by the United Kingdom Accreditation Service (UKAS) to BS EN ISO/IEC 17024:2012. They shall maintain a quality management system including a specific certification scheme which includes or references the technical contents and processes of this Code of Practice.

## 1.10 Interested party

Interested party is an individual, group or organization affected by the performance of a certified person or the certification body.

# 2 – General

The basis for a decision by a UK AB / RTPO for the approval of joining personnel according to the Pressure Equipment (Safety) Regulations 2016, as they apply to Great Britain, shall be a valid qualification, or a certificate of competence, issued by a recognised third-party covering joining qualification in the relevant sector.

There are three cases described below, as the Approval of Joining Personnel routes A, B and C, all of which require that a UK AB / RTPO takes on the total responsibility for issuing a new certificate or endorsing an existing certificate\* under the law (PESR) as follows:

A) Certification by UK AB; Individuals who are certified according to the designated standards in a relevant sector.

B) Certification by a body which is not a UK body; but is currently recognised by a member state of the EU for the certification of joining personnel and for which the accepting UK body has verified and validated the certification.

C) A body internationally recognised as an independent third-party organisation, duly accredited against the applicable codes and standards by a national accreditation body and for which the accepting UK body has verified and validated the certification.

\*Note! It is recognised that revalidation of approval, as required by the applicable code or standard, maybe undertaken by any other recognised third-party organisation. Recognition of that third party organisation must be acceptable to the UK body.

## 3 - Approval of joining personnel requirements

### 3.1 General

For the approval of joining personnel by a UK AB / RTPO, one of the following routes shall be applied. All documentation shall be in the English language.

### 3.2 Route A

An individual holds a current recognised certificate for the required sector issued by a UK AB or UK RTPO. In this case, the individual is considered to be approved without further action.

### 3.3 Route B

An individual holds a current recognised certificate issued by a body which is not a UK body; but is currently recognised by an EU member state for the certification of joining personnel and for which the accepting UK body has verified and validated the certification and the required supporting documents. In this case, the individual is considered to be approved once the following actions have been verified and validated:

- i. A copy of the original personnel certificate.
- ii. The approval status of the certification body via [NANDO](#) at the time of issue of the certificate.
- iii. Copies of the supporting test reports/documents as required by the applicable code or standard, e.g., BS EN SO 9606 Section 6, Examination & Testing. These documents shall include, as applicable, the following:
  - a. Mechanical test results approved as reviewed and accepted by the original certification body.
  - b. NDT test results approved as reviewed and accepted by the original certification body.
  - c. Copies of the original parent material test reports approved as reviewed and accepted by the original certification body.
  - d. Copies of the consumable material certificates.
  - e. Records of the as welded parameters required by the original code or standard s applicable.
  - f. Evidence of the test facility accreditation status meeting BS EN ISO/IEC 17025. (See note 1).

Once a satisfactory review is completed the UK AB / RTPO shall issue a new UK certificate referencing the original approval and confirming that the body is now legally responsible for the certificate. The start date shall be the date of the welding of the test piece(s).

### 3.4 Route C

An individual holds a current recognised certificate by a body which is not a UK body; but is a body internationally recognised as an independent third-party organisation, duly accredited against the applicable codes and standards by a national accreditation body. In this case, the individual is considered to be approved once the following actions have been verified and validated:

- i. A copy of the original personnel certificate.
- ii. The approval status of the certification body via the relevant national accreditation body at the time of issue of the certificate.
- iii. Evidence that the accreditation body is a member of the International Accreditation Forum and holds the required scopes of approval.
- iv. Copies of the supporting test reports/documents as required by the applicable code or standard, e.g., BS EN SO 9606 Section 6 Examination & Testing.  
These documents shall include as applicable the following:
  - a. Mechanical test results approved as reviewed and accepted by the original certification body.
  - b. NDT test results approved as reviewed and accepted by the original certification body.
  - c. Copies of the original parent material test reports approved as reviewed and accepted by the original certification body.
  - d. Copies of the consumable material certificates.
  - e. Records of the as welded parameters required by the original code or standard s applicable.
  - f. Evidence of the test facility accreditation status meeting BS EN ISO/IEC 17025. (See note 1).
- v. Once a satisfactory review is completed the UK AB shall issue a new UK certificate referencing the original approval and confirming that the body is now legally responsible for the certificate. The start date shall be the date of the welding of the test piece(s).

Note 1:

1. When the tests are performed by a laboratory accredited by a national accreditation program (to ISO/IEC 17025 or A2LA), witnessing of the test is not mandatory
2. When the tests are performed by an approved supplier of a UK AB, who are assessed for the relevant scope, witnessing of the test is not mandatory
3. When the tests are performed by a laboratory that is not accredited according to option 1. Or approved per option 2., witnessing of the test is mandatory

Note 2:

1. With reference to the revalidation of certification for joining personnel, it is recognised that there may be some difficulties in maintaining compliance with multiple regulatory requirements e.g., UK PESR's and EU PED. Therefore, it is recommended that the UK AB issues a new UK certificate on completion of the verification validation process. Counter stamping an existing certificate issued by non-UK independent body can be considered acceptable when undertaken on a project-by-project basis.
2. The above does not preclude the UK AB counter stamping the original certification and issuing a separate UK Certificate.
3. UK ABs should consider the above when undertaking reviews of supplied documents for a specific project or application.



## 4 - Approval attestation

Approval attestation

*(Extracted from BS EN SO 9606-1:2017)*

All as welded test pieces shall meet the requirements specified in the relevant code or standard and or BS EN SO 9606-1:2017 section 7.

Joining personnel qualifications approved by an EU Notified Body / RTPO qualified prior to the 1<sup>st</sup> of January 2023 shall be accepted as meeting UKCA requirements until the certificate expires, or is required to be prolonged, or until the end of 2027 (whichever is sooner). Upon certificate expiry or revalidation, the joining personnel shall then require approval from a UK AB / RTPO. Joining personnel approvals qualified on or after the 1<sup>st</sup> of January 2023 shall be acceptable only if they are approved by a UK AB / RTPO.

**Note!** The UK AB shall issue a new certificate under their own name and accreditation.

It shall be verified that the welder has successfully passed the qualification test. All essential variables shall be recorded on the certificate. If the test piece(s) fail(s) any of the required tests, no certificate shall be issued.

The certificate shall be issued under the sole responsibility of the examiner or examining body. A recommended format is detailed in Annex A. If any other form of welder's qualification test certificate is used, it shall contain the information required in Annex A. The examiner or examining body is responsible for verifying that all essential variables are addressed in this certificate.

The following non-essential variables shall be recorded on the certificate:

- type of current and polarity.
- parent material group/subgroup.
- shielding gas.

In general, for each test piece, a separate welder's qualification test certificate shall be issued.

If more than one test piece is welded, a single welder's qualification test certificate can be issued that combines the ranges of qualification of the individual test pieces. All essential variables for all tests shall be recorded on the combined certificate. In this case, only one of the following essential

variables are permitted to differ, except those given in 5.7.

- type of weld,
- welding position,
- deposited thickness.

It is not permissible to change other essential variables.

It is recommended that the welder's qualification test certificates be issued in the local language plus English.

The examination of job knowledge (see Annex B) shall be designated by "Accepted" or "Not tested".

In accordance with 5.4 e) the supplementary fillet weld test shall be recorded on the certificate for the associated butt weld qualification.

For joining operators qualified against BS EN ISO 14732 the functional knowledge check is mandatory.

## 5 - Renewal of Approvals

Upon the expiry of the certificate, a joining personnel approval may be renewed by the UK AB / RTPO provided that the criteria for initial approval remain fulfilled and the required revalidation evidence as detailed in BS EN ISO 9606-1:2017, section 9 for all three routes, A, B & C, has been completed to the satisfaction of the UK AB.

*BS EN ISO 9606 Section 9.3 states:*

“Revalidation shall be carried out by an examiner/examining body\*.

The skill of the welder shall be periodically verified by one of the following methods.

- a) The welder shall be retested every 3 years.
- b) Every 2 years, two welds made during the last 6 months of the validity period shall be tested by radiographic or ultrasonic testing or destructive testing and shall be recorded. The acceptance levels for imperfections shall be as specified in Clause 7. The weld tested shall reproduce the original test conditions except for thickness and outside diameter. These tests revalidate the welder's qualifications for an additional 2 years.
- c) A welder's qualifications for any certificate shall be valid as long as it is confirmed according to 9.2 and provided all the following conditions are fulfilled:
  - the welder is working for the same manufacturer for whom he or she qualified, and who is responsible for the manufacture of the product;
  - the manufacturer's quality programme has been verified in accordance with ISO 3834-2 or ISO 3834-3;
  - the manufacturer has documented that the welder has produced welds of acceptable quality based on application standards, the welds examined shall confirm the following conditions: welding position(s), weld type (FW, BW), material backing (mb) or no material backing (nb)”.

\*Note. An examiner/examining body in this context shall be a UK RTPO.

## 6 – Certification Scheme

The UK AB shall develop and maintain a certification scheme in accordance with the requirements of BS EN ISO/IEC 17024:2012 incorporating the process and technical requirements of this Code of Practice. The quality management system including the scheme shall be accredited by UKAS.

The scheme shall meet all the requirements of BS EN ISO/IEC 17024:2012 and more specifically detail the methodology of attesting each individual applicant, this testing shall include a mechanism for examining and measuring the applicant's awareness, knowledge, and application of the UK Pressure Equipment (Safety) Regulations as they apply in Great Britain.

## 7 – Interested Party

This Code of Practice has been developed by a group of significantly interested parties, at the time of publishing this included representation from the following organisations, please note the list is not exhaustive and other interested companies and individuals have been consulted during the development process:

The UK Approved Bodies Forum (CABF)  
The British Institute of Non-Destructive Testing  
The Safety Assessment Federation (SAFed)  
The Engineering Equipment and Materials User Association  
(EEMUA)(TBC)  
The Pressure Vessel Manufacturers Forum (TBC)  
Independent manufacturers and NDT operators/consultants (TBC)

Note!

UK AB's / RTPO's shall consider the need for wider consultation of interested parties in respect of their specific certification schemes as applicable.

## 8 – Impact of the new measures (The four Easements)

To make it simpler for businesses to adopt UKCA marking, the government has brought forward the following measures.

### **Reducing re-testing costs:**

The government intends to introduce legislation which will allow completed conformity assessment activities carried out under EU requirements (including existing testing, certification, and contractual arrangements relating to the quality control or auditing of existing certificates) undertaken by non-UK conformity assessment bodies (CABs) (accredited by their national accreditation body) for CE certification before 1 January 2023 to be used by manufacturers to declare existing product types as compliant with UKCA.

Products must still bear UKCA marking and will need to undergo conformity assessment with a UK AB at the expiry of the certificate or after 5 years (31 December 2027), whichever is sooner.

This will allow manufacturers to apply the UKCA mark without the need for any UK-recognised CAB involvement and continue to place their goods on the market, on the basis of their existing CE type examination completed before 31 December 2022, for the lifetime of the certificate issued, or until 31 December 2027 (whichever is sooner).

This means that the joining activities performed by qualified joining operators can continue to be accepted for items of equipment either in full or in part, i.e., where an item is to be incorporated into an assembly destined for the UK market, until their certificate expires, or until it requires revalidation by a competent third party being either

a UK approved body or a UK recognized third party organization in accordance with the applicable designated code or standard e.g. BS EN ISO 9606 clauses 9.3 a) or b).

It should be noted that different joining standards may apply, nonetheless when using a standard that is not on the designated standards list it is required that renewals are only considered acceptable if they demonstrate equivalence with the appropriate designated standard. In respect of revalidations for approvals and renewals of joining operator certification post 31/12/2022 these will require approval by a UK Approved Body.

Note! Changes in the scope of a certificate constitutes a renewal and will require UK Approved Body certification.

## **Requirements for Joining Procedures**

Joining procedures are considered factual reports of the activities undertaken at a specific point in time. As such the UK AB / RTPO has to review these on a case-by-case basis and decide if they have sufficient evidence to accept them for a specific project or application. Over stamping of existing procedures is not considered acceptable as the approved may not have sufficient evidence of compliance. The accreditation requirements are that a UK AB / RTPO certificate be issued using the required supporting documentation, this way the UK AB / RTPO has the required ownership of the certificate. Any supplemental testing required for a specific project or application requires the involvement of a UK AB.

**Importers / Manufacturers** will need to provide evidence that the individual operator certification was completed by an EU Notified Body / RTPO, and the individual was correctly certified prior to 01/01/2023.

**Approved Bodies** - where they are involved in subsequent processing activities or global assembly assessments, they shall assess the evidence provided by the manufacturer to determine its acceptability for the purpose intended. The UK AB / RTPO shall document its review and justification for acceptance.

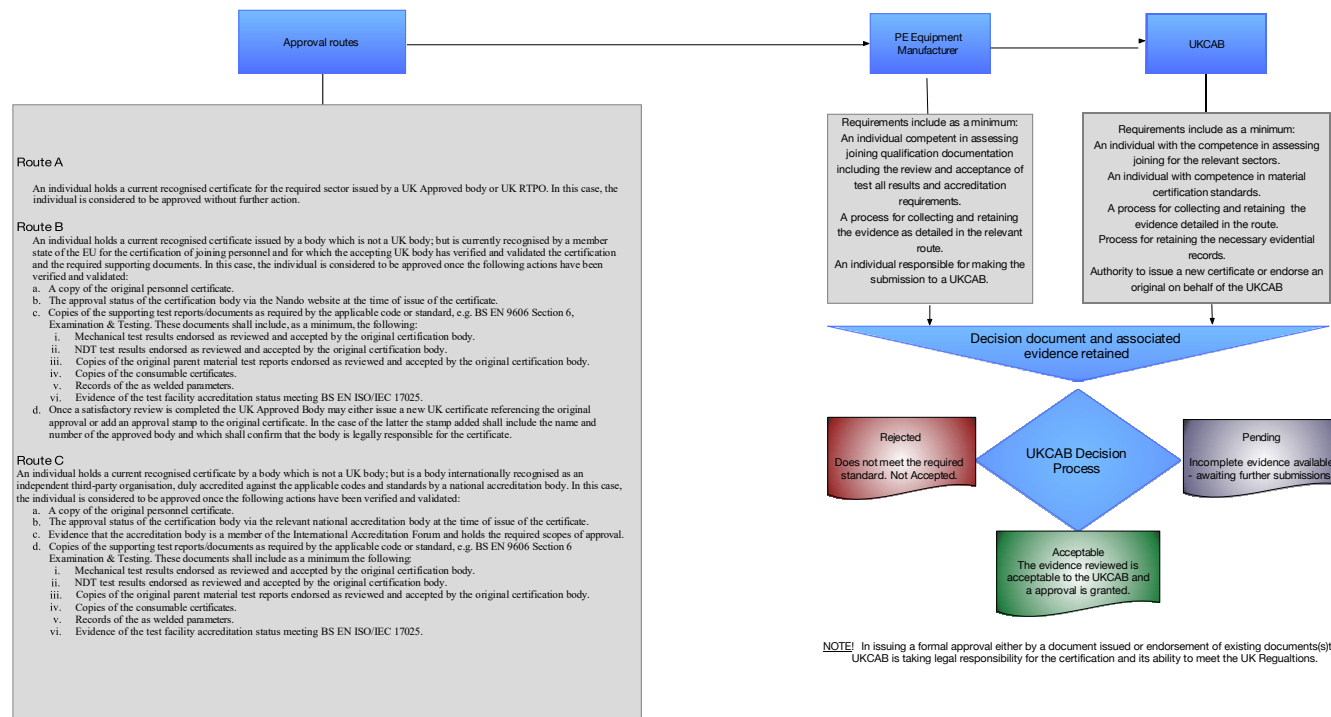
# Annex A

## Process Flow chart

### BEIS OPSS PE Working Group



### Code of Practice for the acceptance/approval of joining operator approvals under the provisions of the UK PESRs



## Bibliography

- [1] UK Pressure Equipment Safety Regulations 2016, as they apply in Great Britain  
<https://www.legislation.gov.uk/ukxi/2016/1105/schedule/2>
  
- [2] The Product Safety and Metrology etc. (Amendment etc.) (EU Exit) Regulations 2019, as amended  
<https://www.legislation.gov.uk/ukxi/2019/696/contents/made>
  
- [3] Guidelines - The provisions of EU PED 2014/68/EU Guidelines F-01, F-04, F-11 and F-12,  
[https://ec.europa.eu/growth/sectors/pressure-equipment-and-gas-appliances/pressure-equipment-sector/pressure-equipment-directive\\_en](https://ec.europa.eu/growth/sectors/pressure-equipment-and-gas-appliances/pressure-equipment-sector/pressure-equipment-directive_en)
  
- [4] *BS EN ISO 9606-1:2017 - Qualification testing of welders — Fusion welding*
  
- [5] *BS EN ISO/IEC 17025:2005 - General requirements for the competence of testing and calibration laboratories*