



RG6

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Accreditation for In-Service Inspection of Lifting Equipment

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CHANGES SINCE LAST EDITION

This publication has been updated in respect of the documents referred to in the text and appendices.

1 INTRODUCTION

- 1.1 This publication has been produced by the United Kingdom Accreditation Service (UKAS) in conjunction with the UKAS Technical Advisory Committee for Engineering Inspection. It provides guidance to those requirements in ISO/IEC 17020 that need interpretation when applied by Inspection Bodies carrying out in-service inspection of lifting equipment. It does not cover all of the requirements of ISO/IEC 17020 (General criteria for the operation of various types of bodies performing inspection. Cross-reference is made to relevant sections of ISO/IEC 17020. . In cases of difference of interpretation, ISO/IEC 17020, (as applied by UKAS in accordance with IAF/ILAC-A4: 2004) is the authoritative publications, and UKAS, through the nominated member of the Technical staff, will in the first instance adjudicate on unresolved matters. Appeals concerning interpretation will be considered in accordance with the UKAS Appeals Procedure. Other UKAS publications may be referred to where relevant.
- 1.2 For the purposes of this publication the term “Inspection Body” shall be taken to mean accredited Inspection Body.

2 INSPECTION SERVICES COVERED BY RG6 (ISO/IEC 17020 CLAUSE 3.3)

- 2.1 This publication document covers the accreditation of in-service inspection of lifting equipment that includes that undertaken after installation and prior to being put into service. It does not include the inspection of lifting equipment during manufacture.
- 2.2 In-service inspection of lifting equipment performed both onshore and offshore may be accredited using this document.
- 2.3 The scope of activity of in service inspection for which accreditation is granted may be described in the accreditation schedule as Powered Lifting Appliances, Manual Lifting Appliances or Lifting Accessories as defined in Section 6.7 of this publication or by reference to the specific type of lifting equipment (eg, Lifts, tower cranes, etc).
- 2.4 Inspection Bodies accredited under this publication provide one or more of the following services:
- a) development of schemes of in-service inspection;
 - b) in-service inspection of equipment to detect actual and potential defects and judgements on the significance of such defects for continued safe use;
 - c) reporting the result of the in-service inspection, specifying any remedial action and/or recommendations;
 - d) inspection during or following remedial action;
 - e) commenting on the suitability of, and any changes necessary to, inspection methods/ schemes of in-service inspection.

3 PERSONNEL (ISO/IEC 17020 CLAUSE 8)

- 3.1 The Inspection Body should be able to demonstrate that it has identified the competencies required to undertake the range of inspection activities covered by its scope of accreditation and that it has processes in place to train, assess and monitor staff against those competencies. UKAS RG 0 publication provides a framework for a competence management system for inspection bodies. The qualification categories in appendix 2 of this publication may also be used to develop competence criteria for inspection and supervision of inspection of lifting equipment.
- 3.2 The Inspection Body shall have sufficient number of permanent management personnel with suitable experience in the design, manufacture, inspection, operation or maintenance of lifting equipment and lifting accessories, and have the technical knowledge to make professional judgements on the range of safety related problems likely to arise from the accredited scope of inspection.
- 3.3 The Inspection Body shall only use persons to carry out inspections of lifting equipment who have the qualifications, training, experience and knowledge of the requirements of the inspections to be carried out. The Inspection Body shall maintain records of such qualifications, training and experience, and records to show how, and when, each person was authorised to perform specific in-service inspection activities. These records shall, as a minimum, indicate the Class of lifting equipment as defined in Table 1 of this publication, considered to be within the competence of that person.
- 3.4 The Inspection Body shall only authorise persons to carry out in-service inspections of lifting equipment if the inspections are within the designated competence of that person and if that person holds the Category of qualification shown in Table 1 and defined in appendix 2.
- 3.5 Where the staff of the Inspection Body carry out in-house calibrations of inspection, measuring and test equipment or specialised types of testing such as NDT, in connection with the inspection of the lifting equipment, the records of their training, qualifications and experience shall be maintained together with details of who is authorised to perform specific calibrations or tests and to evaluate the results obtained.

4 TRAINING (ISO/IEC 17020 CLAUSE 8.2)

- 4.1 The training provided by the Inspection Body shall provide a working knowledge of the plant, equipment and systems including design, construction, operation, maintenance, significance of defects, typical problem areas and associated method of rectification.
- 4.2 The training shall include the safe conduct of the inspectors' duties, in particular safe practices applicable to lifting equipment, risk assessment, knowledge of applicable statutory requirements, codes of practice and standards.

5 INSPECTION METHODS AND PROCEDURES (ISO/IEC 17020 CLAUSE 10.1, 10.2, 10.3, 10.4, 10.5)

- 5.1 The procedures and instructions used to develop schemes of in-service inspection and performance of in-service inspection of lifting equipment shall detail how the Inspection Body interprets and applies the appropriate regulations, codes of practice, standards, specifications, guidance documents and customer requirements.
- 5.2 Where risk assessment techniques are used to establish the nature and frequency of inspections, the Inspection Body shall document the techniques used in procedures including a demonstrable justification for using the technique.
- 5.3 The Inspection Body shall have instructions from its customer clearly specifying the precise scope of work it contracts to undertake including any specific conditions. For example, if the Inspection body undertakes the inspection of repairs or witnessing of proof load testing, this should be clearly stated in the instructions agreed with the customer.
- 5.4 If the Inspection Body uses information supplied by any other party as part of in-service inspection of lifting equipment then it shall be able to demonstrate the measures taken to verify the integrity of such information.
- 5.5 Reporting requirements including any statutory requirements for reporting shall be detailed in procedures.
- 5.6 Codes, Standards, Specifications and other technical literature applicable to the design, construction, operation, inspection, test and repair of lifting equipment and their components within the accredited scope shall be maintained up to date and be readily available to the persons of the Inspection Body.

6 SUB-CONTRACTING (ISO/IEC 17020 CLAUSE 14)

- 6.1 Where the Inspection Body uses results of specialised testing techniques supplied by other organisations (e.g. Sub Contractors) for making judgments on the integrity of the pressure system / equipment or for inclusion in inspection reports, the Inspection Body shall be able to demonstrate the competence of the testing organisation.
- 6.2 Where the Inspection Body sub contracts certain specialised activities they shall have access to personnel sufficiently knowledgeable in those technical activities being subcontracted, to be able to:
- (a) define the problem adequately to enable the sub contractor to offer appropriate services, personnel and equipment;
 - (b) choose an appropriate sub contractor and to assess its technical competence (e.g. methods, personnel and facilities);
- and
- (c) interpret the results supplied by the sub contractor and relate those results properly to the service originally requested or problem originally defined.

- 6.3 Inspection Bodies should endeavour to use results supplied by organisations that hold UKAS (or European equivalent) accreditation or accreditation from a body recognised by UKAS.

REFERENCES

This appendix is not exhaustive but lists selected legislation, standards, information documents and other publications pertinent to this document:

1 Selected list of statutory and related documents:

- Health and Safety at Work Etc Act 1974
- The Provision and Use of Work Equipment Regulations 1998 (PUWER 98) SI 1998, No 2306
- Safe use of work equipment. PUWER 98. Approved Code of Practice and Guidance - L22
- Lifting Operations and Lifting Equipment Regulations 1998 (LOLER 98) SI 1998, No 2307
- Safe use of lifting equipment. Lifting Operations and Lifting Equipment Regulations 1998. Approved Code of Practice and Guidance - L113
- Simple Guide to The Lifting Operations and Lifting Equipment Regulations 1998 - INDG290
- The Management of Health and Safety at Work Regulations 1992 (MHSWR)
- Management of health and safety at work. MHSWR 1992. Approved Code of Practice - L21
- Safety in working with lift trucks - HSG6
- Hydrogen cracking of grade T (8) chain and components - PM 39

2 Competence Standards and Related Documents

- ISO/IEC 17020 - *General Criteria for the Operation of Various Types of Bodies Performing Inspection*
- IAF/ILAC-A4: 2004 - *Guidance on the Application of ISO/IEC 17020*
- BS EN 473 - *General principles for qualification and certification of NDT personnel*
- EA-4/15 - *Accreditation for Non-Destructive Testing*
- ISO 17024 - *General requirements for bodies operating certification of persons*

3 Standards

- BS 7121-2:2003 *Code of practice for safe use of cranes. Inspection, testing and examination*

4 Trade Association Codes and Guidance

- Safety Assessment Federation (SAFed) – *Guidelines on the supplementary tests of in-service lifts 2006.*
- Safety Assessment Federation (SAFed) - LG2 *Guidelines on the Lifting Operations and Lifting Equipment Regulations 1998 (LOLER)*
- Safety Assessment Federation (SAFed) - LG3 *Guidelines for the Thorough Examination of Suspended Access Equipment and Building Maintenance Units (Permanently Installed)*
- Safety Assessment Federation (SAFed) - LG4 *Guidelines for the Safe Management and the Thorough Examination of Lift Trucks*
- Lifting Equipment Engineers Association (LEEAA) - Code of Practice for the Safe Use of Lifting Equipment, 5th Edition, 2001
- Lifting Equipment Engineers Association (LEEAA) - Lifting Equipment - A User's Pocket Guide, 2nd Edition July 2004
- Lifting Equipment Engineers Association (LEEAA) - Hand Chain Blocks & Lever Hoists in the Offshore Environment
- Lifting Equipment Engineers Association (LEEAA) - Lifting Engineer's Handbook

APPENDIX 1

Qualification categories:-

Category 1. Chartered Engineer as defined by the Engineering Council or equivalent (eg, appropriate degree with relevant experience, NVQ Level V Engineering Surveying) including at least 3 years experience within an engineering discipline related to lifting equipment.

Category 2. Incorporated Engineer as defined by Engineering Council or equivalent (eg, appropriate HNC with relevant experience, NVQ Level IV Surveying Engineering) including at least 5 years experience within a relevant engineering discipline of which at least one year** shall have been spent working within an engineering discipline related to lifting equipment.

Category 3. Person employed prior to the date of application for accreditation in the in-service inspection of lifting equipment with less than Incorporated Engineer qualification but meeting the criteria of Category 4 below.

Category 4(a) Engineering Technician as defined by Engineering Council or equivalent (eg, appropriate ONC with relevant experience) having a minimum of 5 years experience within a relevant discipline of which at least one year shall have been spent working within an engineering discipline related to lifting equipment or,

Category 4(b) person trained* in a relevant engineering discipline with a recognised and documented engineering apprenticeship with a minimum of 5 years experience within a relevant discipline of which at least one year shall have been spent working within an engineering discipline related to lifting equipment.

Category 5. Person employed prior to the date of application for accreditation in the inspection of lifting equipment with less than tradesman's apprenticeship but with a minimum of 5 years** spent working with or within the industry related to lifting equipment and has general knowledge of lifting equipment and its operating environment. Personnel shall be

given training followed by documented tests in in-service inspection of lifting equipment. The minimum age for this Category is 21 years.

Category 6. Persons with a minimum of 5 years** spent working with or within the industry related to lifting equipment and has general knowledge of lifting equipment and its operating environment. Personnel shall be given training followed by documented tests in in-service inspection of lifting equipment. The minimum age for this Category is 21 years.

* The Inspection Body shall assess the competence of persons in Categories 4(b), 5 and 6 and this assessment should cover relevant knowledge of the law, codes of practice and inspection techniques. UKAS should be given the opportunity to review the means of such an assessment.

**For some routine, well-monitored activities this period may not be necessary.

6.7 Classification of Lifting Equipment

Class A.

Powered Lifting Appliances

Powered lifting appliances cover a wide range of appliances used for lifting and mean any stationary or mobile appliance including attachments for anchoring, fixing or supporting that appliance, which is operated by means of motive power. Eg, electric, hydraulic or pneumatic or other powered means.

Class B.

Manual Lifting Appliances

Manual lifting appliances cover a wide range of appliances used for lifting and mean any stationary or mobile appliance including attachments for anchoring, fixing or supporting that appliance which is operated solely by means of the operator without any powered assistance.

Class C.

Lifting Accessory

Lifting Accessory covers the whole range of equipment used for attaching loads to Lifting Appliances.

Table 1

Requirements for qualifications and minimum supervision levels of inspectors performing inspection of Lifting equipment

Class of lifting equipment	Qualification Category	Min. level of supervision of technical activities	Constraints
Class A Powered Lifting Appliances	1	Occasional	Inspection or associated activities in technology outside the field of competence is prohibited except by formally documented consultation.
	2 & 3	Occasional	The above constraint plus prohibition on any non-routine repairs, modifications, changes to operating parameters, changes to inspection methods, calculations not defined in recognised standards except with specific approval by an appropriately qualified person.
	4	Occasional	Permitted only for testing and examination to identify defects, within the limits specified by Category 1 or 2 person. Any decisions involving limits of acceptability, repairs or modifications shall be approved by authorised persons qualified to Category 1 or 2.
	5	Frequent	Same as for Category 4 above.
Class B Manual Lifting Appliances	1	Occasional	Inspection or associated activities in technology outside the field of competence is prohibited except by formally documented consultation.
	2 & 3	Occasional	The above constraint plus prohibition on any non-routine repairs, modifications, changes to operating parameters, changes to inspection methods, calculations not defined in recognised standards except with specific approval by an appropriately qualified person.
	4	Occasional	Permitted only for testing and examination to identify defects, within the limits specified by Category 1 or 2 person. Any decisions involving limits of acceptability, repairs or modifications shall be approved by authorised persons qualified to Category 1 or 2.
	5	Frequent	Same as for Category 4 above.

Class C Lifting Accessories	6	Constant	Permitted only for testing and examination to identify defects, within the limits specified by Category 1 or 2 person. Any decisions involving limits of acceptability, repairs or modifications shall be approved by authorised persons qualified to Category 1 or 2.
	1	Occasional	Inspection or associated activities in technology outside the field of competence is prohibited except by formally documented consultation.
	2 & 3	Occasional	The above constraint plus prohibition on any non routine repairs, modifications, changes to operating parameters, changes to inspection methods, calculations not defined in recognised standards except with specific approval by an appropriately qualified person.
	4 & 5	Occasional	Same as for Category 2 & 3 above.
	6	Frequent	Same as for Category 2 & 3 above.

Definition of supervision

Occasional

Formal, direct contact to review work with Supervisor at least annually. More frequent direct contact with Supervisor may be necessary. Technical support from persons qualified to Category 1 or 2 to be readily available. For example, an Inspector working from home who has little direct contact with his Head Office.

Frequent

Direct contact with Supervisor at least weekly. Technical support from persons qualified to Category 1, 2 or 3. For example, an Inspector whose work is based from a depot or office where the Supervisor is available.

Constant

Direct daily contact with Supervisor. Technical support from persons qualified to Category 1, 2, 3 or 4 to be readily available. For example an inspector working within a factory environment under direct control of the Supervisor.