



Department for
Transport

DR 6

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Inspection of Tanks for the Carriage of Dangerous Goods by Road and Rail

Guidelines for the Appointment of Inspection Bodies required Under Schedule 1 Paragraph 8 of the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2004, No 568 as Amended

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CHANGES SINCE LAST EDITION

- 1) Content of Paragraph 3.1 moved from previous position in Clause 2
- 2) New Clause 4 added to clarify the requirements for professional indemnity and public liability insurance. Subsequent clauses renumbered.
- 3) Note 1 relating to Written Schemes of Examination amended to clarify that scope of assessment and subsequent appointment under DR6 relates to the inspection of the old tank and its service equipment only.
- 4) Clause 8.2 expanded to clarify requirements for inspections to be carried out 'under the control of' as permitted in Schedule 1 Para 3(1)(a)(iii).
- 5) Clause 6.2 expanded to include Incorporated Engineer.
- 6) Editorial amendments.

1 INTRODUCTION

1.1 This publication contains policy, requirements and guidance applicable to bodies seeking recommendation by the United Kingdom Accreditation Service (UKAS) to the Department for Transport (DfT) for appointment as 'Inspection Bodies' for 'Old Tanks' under Schedule I Paragraph 8 of The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations SI 2004, No 568 as amended by The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment (Amendment) Regulations. SI 2005 No.1732 (hereinafter together referred to as The Carriage Regulations), to perform the following inspection functions in accordance with the requirements of the regulations: -

- (i) Periodic examination and certification of tanks in service.

Unless specific exceptions apply such examinations to be in accordance with an operator's suitable written scheme of examination.

and/or

- (ii) Examination and certification of the design and/or construction of tanks following a major repair or modification to the tank shell.

This publication relates solely to 'Old Tanks' i.e. those built on or before 9 May 2004. A separate document DR5 applies to all tanks built for domestic use on or after 10 May 2004 as defined in the Carriage Regulations and to all tanks intended for international journeys under RID/ADR.

1.2 This publication provides background information for assessors and bodies seeking appointment as Inspection Bodies undertaking activities in respect of the inspection functions described above and interprets the requirements of BS EN ISO/IEC 17020, General criteria for the Operation of Various Types of Bodies Performing Inspections, when applied to these functions. BS EN ISO/IEC 17020 is the authoritative publication, supported by the associated guidance given in IAF/ILAC-A4:2004 published by the International Accreditation Forum.

1.3 Applications for assessment should be made to UKAS. Further information on the application process and related information is given in UKAS document P16 - Assessment of Approved and Notified Bodies. Contact details for relevant organisations and document sources are given in Appendix 1.

1.4 This publication may also be used in support of UKAS voluntary accreditation to perform the above inspection functions with the exception of 8.2.

2 SCOPE OF THIS PUBLICATION (BS EN ISO/IEC17020, Clause 1)

2.1 For the purposes of this publication "tank" should be interpreted as meeting the definitions given for tank, tank container, demountable tank, tank wagon or road tanker as provided for in the Carriage Regulations (Regulation 2). Other relevant definitions are given in Regulation 2 and Schedule 1. These in turn make reference to the detailed definitions from RID and ADR.

- 2.2 This publication specifies the requirements applicable for 'Inspection Bodies' to carry out the tank inspection body functions specified in Schedule 1 of the Carriage Regulations for tanks that are to carry the goods specified in Regulation 2(1) of the Carriage Regulations.

3 SCOPE OF ASSESSMENT (BS EN ISO/IEC 17020, Clause 3.3)

- 3.1 The requirements given in this publication apply equally and without distinction to dangerous goods of Classes 2-6 & 8-9. For the purposes of assessment and appointment old tanks are subdivided into pressure tanks or low pressure tanks (i.e., those used for the carriage of dangerous goods for which a tank code with the letter "G" is given in 4.3.4.1 of RID/ADR).
- 3.2 The scope of assessment and, if applicable, subsequent appointment will be determined by the inspection body activity detailed in 3.3 (below) and with reference to the classes of goods specified in Regulation 2(1) of the Carriage Regulations (except Classes 1 & 7) and will be limited to those areas in which the organisation seeking appointment has demonstrated its capability.
- 3.3 Inspection bodies may be appointed to carry out 3.3.1 and 3.3.4 with 3.3.2 and/or 3.3.3 below so as to provide an effective service for the detection of potential and actual defects in tanks and their service equipment and fittings, to report to the user or operator as appropriate the condition of the equipment under examination and to specify any necessary action.
- 3.3.1 To review and where appropriate to comment on the written scheme of examination (Note 1).
- 3.3.2 To examine the tank in accordance with the requirements of a suitable written scheme of examination that has been prepared and carried into effect by the operator.
- 3.3.3 Where appropriate, following a major repair or modification to the tank shell, verify and certify that the tank remains suitable for the purpose for which it is intended. (Note 2)
- and
- 3.3.4 To stamp/mark permanently the tanks in accordance with Schedule 1, Section 4.

Note 1. Acceptance by the inspection body of the operator's written scheme of examination for the old tank and its service equipment and fittings is implicit in the certification process. The inspection Body should therefore have the capability of reviewing the written scheme prior to commencing and during work and of commenting on and if necessary requiring changes to the written scheme in respect of those inspection activities for which it is responsible.

A reference to the Energy Institute's document, 'A Model Written Scheme for the Examination, Testing and Certification of Petroleum Road Tankers' is given in Appendix 1, (4). This document, which was developed with the support of DfT and the Health and Safety Executive, represents a model approach to the production of a suitable written scheme for the inspection of petroleum road tankers. Suitable alternative written schemes for old tanks would be those that would provide a similar level of safety and security in respect of the old tank elements of the EI model written scheme. These elements are considered to be those

covered by 4.1 to 4.7 and 4.11.1(e) of the 2004 edition of the EI model written scheme. Operators should, however, be made aware that they would be advised to have all the examinations and tests specified in the model written scheme completed as part of the requirements on the vehicle as a whole.

A reference to DfT guidance for a suitable written scheme for the examination, testing and certification of old tanks is given in Appendix 1, (3).

Note 2. A major repair or modification to the tank shell is a repair or modification involving hot work on the tank shell.

4 LIABILITY INSURANCE (BS EN ISO/IEC 17020, Clause 3.4)

4.1 Applicants should demonstrate at assessment that arrangements have been made for liability insurance to take effect from the date of recommendation for appointment and, when appropriate, confirm that this is in place.

Recommended bodies that intend to provide inspection services to other organisations should carry adequate cover for professional indemnity risks.

Recommended bodies that intend to provide inspection services within the company or to the group of which it is a member should demonstrate that the need for cover for professional risks has been considered and implemented as necessary.

All appointed bodies should carry adequate public liability insurance.

DfT will not in any case or circumstance cover an inspection body's liability.

5 INDEPENDENCE (BS EN ISO/IEC 17020, Clause 4)

5.1 ISO 17020 classifies the independence, impartiality and integrity of an inspection body by reference to the minimum criteria, which are specified in Clause 4 of that standard and the normative Annexes A, B and C of the standard. For the tank inspection activities covered by this publication the following requirements apply.

Activity	Annex
Written scheme review and examination and certification in service	A or B or C
Verification and certification following major repair and modification and associated review of written schemes.	A or B

6 PERSONNEL (BS EN ISO/IEC 17020, Clause 8)

6.1 Supervision

In addition to the requirements specified in ISO 17020 the Inspection Body shall employ sufficient supervisory personnel knowledgeable in the problems of the specific inspections for which the organisation is appointed. They shall have knowledge of the law, standards, codes of practice, examination and inspection techniques and an understanding of the effects of operation for the tanks concerned.

6.2 Technical Support

The Inspection Body shall also employ, or have permanent defined access to sufficient Chartered or Incorporated Engineer(s), or equivalent, who are trained and experienced in relevant specialist areas applicable for the tanks concerned.

6.3 Verification and Examination

6.3.1 Qualification categories, level of supervision and constraints on activities are defined in Appendices 2, 3 and 4.

6.3.2 The minimum requirements for individuals carrying out the inspection functions within the scope of this publication are given below.

(A) For periodic inspection

(i) Review and comment on operator's written scheme of examination.

Category 4 with Occasional Supervision and Constraint II

(ii) Examination and certification

Category 5 with Frequent Supervision and Constraint III*

(For low pressure tanks Category 6 examiners may be used if subject to Constant Supervision and Constraint III*** in which case the supervising examiner shall be responsible for certification).

(B) For inspections at major repair or modification

(i) Design verification or review and comment on operator's written scheme of examination

Category 4 with Occasional Supervision and Constraint II*

(ii) Examination and certification

Category 4 with Occasional Supervision and Constraint II

*Examiners in this category are restricted to those with a minimum of 3 years direct experience of relevant design verification work having authoritative technical support from personnel qualified to Category 1 or 2.

**Examiners in this category are restricted to carrying out routine, repetitive and well defined examinations on specified types of tanks.

*** Examiners in this category are restricted to carrying out routine, repetitive and well defined examinations on specified types of tanks. As constant supervision is required Category 6 examiners can only effectively operate at centralised tank inspection bases or depots where the required supervision is available.

7 EQUIPMENT (BS EN ISO/IEC 17020, Clause 9)

7.1 The Inspection Body shall ensure that all inspections and tests, on which its verifications and examinations are in any way dependent, are carried out by individuals who are competent using appropriate equipment that is properly operated and maintained and which is in a known state of calibration which is traceable to national standards.

NOTE: BS EN ISO 10012:2003 'Measurement management systems - requirements for measurement processes and measuring equipment' may be used as guidance.

7.2 It is acceptable that the Inspection Body's verifications and examinations may be in part dependent on facilities, equipment and measurement data made available, under the Inspection Body's supervision, by a tank manufacturer, repairer or operator provided that the Inspection Body has assessed and accepted such arrangements and retains the responsibility for the determination of conformity.

8 INSPECTION METHODS AND PROCEDURES (BS EN ISO/IEC 17020, Clause 10)

8.1 The procedures used to carry out the inspection functions described in Paragraph 3.3, above, shall detail how the Inspection Body interprets and applies guidance included in any requirements documents such as statutory regulations, standard specifications, codes of practice or guidance notes.

8.2 Where periodic examination is to be undertaken by an operator under the control of an inspection body in accordance with the requirements of Schedule 1, Para 3 (1)(a)(iii) of the regulations, there shall be a formal written agreement between the operator and the inspection body detailing the scope of the inspection and the roles and responsibilities of the two parties. In these circumstances:-

8.2.1 An operator may only undertake examinations under such agreements on items which are directly under the operator's control.

8.2.2 The inspection body shall be responsible for ensuring that inspections carried under its control are carried out in accordance with the relevant requirements of ISO 17020.

8.2.3 The inspection body shall be responsible for ensuring that the personnel undertaking the examinations are competent for the tasks that they undertake. The operator's inspection staff shall meet the relevant qualification, supervision and constraints on activity requirements of DR6. The inspection body shall be

responsible for the authorisation of inspection personnel and for ensuring that adequate training is undertaken and that training records are maintained.

8.2.4 Where, for the provision of specialist services, it is necessary that work that forms part of the periodic examinations is to be sub-contracted the operator will obtain the written agreement of the inspection body. The inspection body will be responsible for ensuring the suitability of any such sub-contractors.

8.2.5 The inspection body shall be responsible for the suitability of written schemes.

8.2.6 The inspection body shall remain responsible for the results of the periodic examinations and for certification.

8.2.7 Periodic examinations shall be carried out only in accordance with an operator's management system and procedures that is authorised by the inspection body. Authorisation shall be carried out by personnel of Qualification Category 2 or above.

8.2.8 The inspection body shall undertake assessment and surveillance of the inspection activities by means of announced and unannounced visits carried out at intervals that it considers necessary to maintain control of the inspection activities and that reflect the frequency, scope and risks of the inspections performed and the results of previous surveillances and inspections. During the first year of operation a minimum of two visits shall be made. A full reassessment of all the operator's inspection staff shall be carried out every three years.

9 RECORDS (BS EN ISO/IEC 17020, Clause 12)

9.1 The Inspection Body shall maintain records that shall be sufficient to permit satisfactory retrospective evaluation of the inspection. The records may be in hard copy form or stored using an electronic system. The records shall be protected against alteration and unauthorised access and security measures shall be implemented with respect to authentication of inspection reports. The system shall enable hard copies to be obtained when necessary.

9.2 Records shall be stored for the following minimum periods

Records detailing:

Periodic inspection	Life of certificate
Certification of major repairs and modifications to the tank shell and associated reviews of written schemes.	7 years

10 REPORTING (BS EN ISO/IEC 17020, Clause 13)

10.1 Where a tank inspection falls within the scope of statutory regulations the reporting requirements of the relevant regulations shall be met. The Inspection Body shall ensure, as far as reasonably practical, that such reports comply with the requirements of ISO 17020.

11 SUBCONTRACTING (BS EN ISO/IEC 17020, Clause 14)

11.1 Where supporting conformity assessment activities such as testing and, exceptionally, inspection activities are subcontracted, Inspection Bodies shall take responsibility for and demonstrate that these activities are carried out in accordance with the requirements of the relevant conformity assessment standard in the ISO 17000 or EN 45000 Series.

Inspection Bodies shall do this by either:

- (a) subcontracting to an organisation which is accredited by a recognised national authority for the scope of work subcontracted;

- (b) subcontracting to an organisation which the Inspection Body has itself formally assessed and accepted as operating in compliance with the requirements of the relevant conformity assessment standard for the scope of work to be subcontracted.

NOTE: In order to give time for the necessary arrangements to be developed to implement the above, Inspection Bodies yet to be appointed (at July 2006) under DR6 requirements may accept relevant subcontracting organisations who hold nationally accredited ISO 9001:2000 certification for the scope of work subcontracted up to end of June 2007.

11.2 Where the Inspection Body contracts with individuals for the provision of inspection services these individuals may be treated as staff provided that there is a contract in place requiring that their activities shall be controlled through the inspection body's quality system and arrangements for the qualification, supervision, audit and assessment of staff.

11.3 Where the Inspection Body contracts with individuals for the provision of Non-destructive Test (NDT) services these individuals shall hold relevant up-to-date BS EN ISO/IEC 17024 nationally accredited personnel certification for the scope of work undertaken.

11.4 Where the tank manufacturer, repairer or operator directly subcontracts specialised conformity assessment activities these activities are also within the scope of the inspection body's responsibility.

APPENDIX 1: RELEVANT PUBLICATIONS AND SOURCES

Information on the main legislation, international documents, product standards, DfT guidance, industry guidance and conformity assessment standards is listed here along with source information. However, this Appendix is non-exhaustive and the documents listed may be subject to change between updates of DR6.

(1) UK National Regulations and Approved Requirements

Identifier	Title	Source
Statutory Instrument 2004 No 568	The Carriage of Dangerous Goods and Use of Transportable Equipment Regulations 2004	TSO
Statutory Instrument 2005- No 1732	The Carriage of Dangerous Goods and Use of Transportable Equipment (Amendment) Regulations 2005	TSO
HSE Books Ref. L93	Approved Tank Requirements	TSO

UK Statutory instruments may also be downloaded from

<http://www.opsi.gov.uk/stat.htm>

(2) International Regulations

	Title	ISBN	Source
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail ((Règlement concernant le transport international ferroviaire des marchandises dangereuses) (RID) 2005		OTIF
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road (Accord européen relatif au transport international des marchandises dangereuses par route) (ADR) 2005	92-1-139097-4	UN

ADR may also be downloaded from

<http://www.unece.org/trans/danger/publi/adr/adr2005/05ContentsE.html>

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(3) DfT Guidance

Guidance for a suitable written scheme for the examination, testing and certification of old Tanks. DfT Dangerous Goods Branch May 2004. Available as a download from

<http://www.dft.gov.uk/roads/dangerousgoods>

(4) Industry Guidance or Standards

Model written scheme for the examination, testing and certification of petroleum road tankers. Energy Institute. September 2004. ISBN 0 85293 412 2.

Railway Group Standard GM/RT2101 - Requirements for the Design, Construction, Test and Use of the Tanks of Rail Tank Wagons.

A model syllabus for the training of technicians involved in the examination, testing, maintenance and repair of petroleum road tankers. Energy Institute. August 2004. ISBN 0 85293 409 2

(5) UK Approved Tanks Standards

A maintained list of the current UK tank standards can be downloaded from

<http://www.dft.gov.uk/roads/dangerousgoods>

UK national and international tank standards may be obtained via

<http://bsonline.techindex.co.uk>

(6) Conformity Assessment Standards

BS EN ISO/IEC 17020:2004 (EN 45004:1995)
General criteria for the Operation of Various Types of Bodies Performing Inspections

BS EN ISO/IEC 17025:2005
General Requirements for the Competence of Testing and Calibration Laboratories

Conformity assessment standards may be obtained via <http://bsonline.techindex.co.uk>

(7) Guidance on the Application of the Conformity Assessment Standards

Guidance on the application of the EN 45000 series and associated conformity assessment standards is published by the International Accreditation Forum and may be directly downloaded from <http://www.iaf.nu/>

(8) UKAS publications and application forms are available from www.ukas.com

APPENDIX 2: QUALIFICATION CATEGORIES

For all the following categories the combination of qualifications and experience shall be such that the person carrying out the examination shall be competent to detect those defects, which it is the purpose of the examination to discover. Documented authority shall specify the extent of the duties for which a person is appointed.

Persons in Categories 4*, 5 and 6 shall be required to pass a qualifying test related to the particular inspection activity and this should cover relevant experience and knowledge of the law, codes of practice, and examination and inspection techniques. (Note 2).

**A person in Category 4 who is already an Engineering Technician may not need to be so tested.*

Categories of Examiner

Category 1 Chartered Engineer as defined by the Engineering Council (or equivalent) including at least 3 years' experience within an engineering discipline associated with the inspection of tanks.

Category 2 Incorporated Engineer as defined by the Engineering Council (or equivalent) including at least 5 years' experience within a relevant engineering discipline of which at least one year must have been spent working within an engineering discipline associated with the inspection of tanks.

Category 3 Person employed prior to the date of application for appointment in the inspection of tanks with less than Incorporated Engineer qualification but meeting the criteria of Category 4 below.

Category 4** Engineering Technician as defined by the Engineering Council, or trained in a relevant engineering discipline with a recognised and documented engineering apprenticeship, followed by a minimum of 5 years' experience within a relevant discipline of which at least one year must have been spent working within an engineering discipline related to the inspection of tanks.

Category 5** Person employed prior to the date of application for appointment in the inspection of tanks with less than tradesman's apprenticeship but meeting the criteria of Category 6 below.

Category 6 A minimum of 5*** years spent working with or within the industry associated with the inspection of tanks, and has general knowledge of that area and is operating environment. Employees shall have satisfactorily completed recognised training courses with appropriate and documented tests in the inspection of tanks. The minimum age for persons in this Category shall be 21 years.

*** Engineering technicians or examiners who have been employed for the examination of low pressure tanks (i.e. those used for the carriage of dangerous goods for which a tank code with the letter 'G' is given in 4.3.4.1 of RID/ADR) prior to the date of launch of this scheme on the basis of acceptable experience and performance, may, subject to employer's authorisation and UKAS assessment, continue to be acceptable.*

**** For some routine, repetitive, well-monitored activities specified in DR6 this period may not be necessary.*

Note 2 . A relevant syllabus and qualifying test arrangements are detailed in the relevant parts of The Energy Institute's model syllabus for the training of technicians involved in the examination, testing, maintenance and repair of petroleum road tankers. See Appendix 1 (4).

APPENDIX 3: ACCESS TO SUPERVISION

In the supervision levels described below, 'Supervisor' means a technical superior, however named. Direct Contact means on the job contact at the site of operation.

Occasional:

Formal, direct contact to review work with Supervisor at least annually. More frequent direct contact with Supervisor may be necessary. Authoritative technical support from personnel qualified to Category 1 or 2 to be readily available.

Frequent:

Direct contact with Supervisor at least weekly. Authoritative technical support from personnel qualified to Category 1, 2 or 3.

Constant:

Direct daily contact with Supervisor at site of operation. Authoritative technical support from personnel qualified to Category 1, 2, 3 or 4 to be readily available.

APPENDIX 4: CONSTRAINTS ON ACTIVITY (PROHIBITED AREAS)

Constraint I:

Technology outside this field of competence - except by formal, documented consultation.

Constraint II:

As above, plus any non-routine repairs or modifications or changes to operating parameters or non-routine changes of inspection procedures involving considerations or calculations not defined within an appropriate, recognised national or international code or standard - unless with the specific and documented approval of an appropriately qualified person.

Constraint III:

Any activities other than the testing and inspection to identify faults and weaknesses within limits defined by the persons qualified to Category 1 or 2. Any decisions involving limits of acceptability, repairs or modifications shall have the procedural or individual documented authorisation of a person qualified to Category 1 or 2.