حكومة دبي
GOVERNMENT OF DUBAI

مركز الإمارات العالمي للاعتماد
Emirates International Accreditation Centre

مركز الإمارات العالمي للاعتماد

Emirates International Accreditation Centre

متطلبات اعتماد جهات التفتيش العاملة في مجال معدات الضغط

Accreditation requirements for inspection bodies working in Pressure Equipment

EIAC-RQ-IB-004

Signatories	
Approved:	Director, Inspection Bodies Accreditation Department

Revision history			
Issue no.	**Rev. No.**	**Details**	**Date**
1	0	First Issue for use under EIAC Name	15-11-2018
1	1	Modify Clause no. 5: References	20-10-2019
1	2	Modify Clause no. 5: References	19-04-2023
1	3	Revised due to the incorporation of the new identity of the Dubai Government	23-07-2024

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

Contents

1	Scope	3
2	Definitions	5
3	General Requirements	8
4	Specific Criteria of Competence	9
5	References	18
6	Annex 1: List of BS EN Standards	19
7	Annex 2: List of ASME Code Standards	22
8	Annex 3: Onshore “Pressure Equipment” Frequencies for Testing / Inspection	25

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as ‘Uncontrolled’. Always refer to the controlled online version.

1 Scope

1.1 This requirement covers the inspection of pressure equipment / pressure systems, which includes inspection that is undertaken after installation and prior to being put into service. Inspection Bodies accredited under this accreditation program 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 incipient discontinuity/ defects and judgments on the significance of such discontinuity/ defects for continued safe use. If a defect is identified by an IB, its significance shall be made clearly known to the person responsible for the operation of the equipment

E.g. if a component is cracked and it shall not continue in use until appropriately repaired or replaced, the IB must advise (in writing) the owner or his representative of this fact before leaving the site;

c) Reporting the result of the in-service inspection, specifying any repair service or replacement action and/or recommendations necessary to restore the pressure equipment to a state of compliance with the appropriate Standards referred in the EIAC-RQ-IB-003

d) Inspection during or following repair service or replacement action;

e) Commenting to EIAC on the suitability of, and Making any suitable changes necessary to, Inspection methods/schemes of in-service inspection

1.2 In-service inspection of pressure equipment performed onshore only may be accredited using this document, for offshore this will be handled in the future.

1.3 The scope of activity of in-service inspection for which accreditation is granted may be described in the accreditation scope for each IB as defined in section 2.4 and 4.3 or by reference to the specific type of pressure equipment / systems (e.g. Refrigerating systems or Water-tube boilers).

1.4 The accreditation program shall cover the inspections of the following classes of pressure equipments / systems (see also HSE's Approved Code of Practice Referenced L 122):

1.4.1 Class 1: Major systems:

Those systems and, because of their size, complexity or hazardous contents, require the highest level of expertise in survey.

1.4.2 Class 2: Intermediate systems

Include the majority of storage systems and process systems which do not fall into either of the other two categories. Pipelines are included unless they fall into the major systems category

1.4.3 Class 3: Minor systems:

Include those systems containing steam, pressurised hot water, compressed air, inert gases or fluorocarbon refrigerants which are small and present few engineering problems

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

1.4.4 Class 4: Equipment operating under creep conditions

Include the pressure equipment expose to levels of stress that are below the yield strength of the material and to high temperature. The inspection of these equipments is carried on in compliance with the applicable standards and technical regulation.

1.4.5 Class 5: Safety accessories

Include the safety accessories that periodically have to be verified in their correct operation and calibrated.

1.5 Subcontracting:

Where the Inspection Body subcontracts certain specialized activities temporarily for part or all of its inspection activities for unforeseen extra work load or any other reasons, the subcontractor must be accredited by EIAC, and there must be identifiable member(s) of the management personnel, sufficiently qualified and experienced in those technical activities being subcontracted, to be able to:

a) Adequately define the problem to enable the subcontractor to offer appropriate services, personnel and equipment;

b) Choose an appropriate subcontractor and assess its technical competence at least in the particular area of interest (e.g. methods, personnel and facilities);

Evaluate the results supplied by the subcontractor and relate those results properly to the service originally requested or problem originally defined.

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

2 Definitions

2.1 Pressure Equipment: Vessel, piping, safety accessory or pressure accessory. Where applicable, pressure equipment includes elements attached to pressurized parts, such as flanges, nozzles, coupling, support, lifting lugs, etc.

2.2 Vessel: housing designed and built to contain fluid under pressure including its direct attachment up to the coupling point connecting it to other equipment. A vessel may be composed of more than one chamber

2.3 Boiler: fired or otherwise heated pressure equipment (vessel) with a risk of overheating.

2.4 Piping: piping components intended for the transport of fluids, when connected together for integration into a pressure system. Piping includes in particular a pipe or system of pipes, tubing, fittings, expansion joints, hoses, or other pressure-bearing components as appropriate. Heat exchangers consisting of pipes for the purpose of cooling or heating air shall be considered as piping.

2.5 Safety accessories: devices designed to protect pressure equipment against the allowable limits being exceeded. Such device includes:

c) devices for direct pressure limitation, such as safety valves, bursting disc safety devices, buckling rods, controlled safety pressure relief systems (CSPRS)

d) limiting devices, which either activate the means for correction or provide for shutdown or shutdown and lockout, such as pressure switches or temperature switches or fluid level switches and “safety related measurement control and regulation (SRMCR)” devices.

2.6 Pressure accessories: devices with an operational function and having pressure-bearing housings

2.7 Pressure Systems / Assemblies: several pieces of pressure equipment assembled by a manufacturer to constitute an integrated and functional whole.

2.8 Substantial / Major Alteration: Technical intervention aimed at changing the original or the intended use of equipment after being put into service.

2.9 Repair: Replacement of part of a pressure equipment or repair, with or without welding, without variation of the original project.

2.10 Inspection: Any physical activity, related to ensuring that an item of “Pressure Equipment / Pressure Systems”, in its entirety and at a given location or environment, meets the specified design and operating Standards and is safe to operate or utilize for a specified period. This includes, but is not limited to, activities such as measuring, testing, recording, checking, analyzing, loading and charting one or more characteristics of the equipment.

2.11 Inspection Period: The minimum specified period, denoted in days, weeks, months or years, between one “Inspection” and a repeat or next “Inspection” as per Annex 2.

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as ‘Uncontrolled’. Always refer to the controlled online version.

2.12 Pressure: pressure relative to atmosphere pressure, i.e. gauge pressure. As a consequence, vacuum is designated by a negative value.

2.13 Maximum allowable pressure (PS): maximum pressure for which the equipment is designed, as specified by the manufacturer.

It is defined at a location specified by the manufacturer. This must be the location of connection of protective and/or limiting devices to the top of equipment or, if it not appropriate, a point specified.

2.14 Maximum/minimum allowable temperature (TS): maximum/minimum temperatures for which the equipment is designed, as specified by the manufacturer.

2.15 First / Thorough Inspection: inspection that shall be carried out at the moment of the first installation before the start up, or after a repair or a major alteration.

The following items shall be checked for compliance with manufacturers' specifications and safe operation

a) Inspection to assess visually and by examination the compliance of the accompanying documents with the requirement of manufacture (CE Marking, ASME, etc.);
b) Functional test;
c) Inspection of safety devices;
d) Inspection to assess that no performed repair of alteration gives rise to danger (when applicable).

2.16 Functionality Test: Inspection activity intended to ensure that:

a) The pressure equipment / system is in a good state of preservation (without defects) for continued operation;
b) The pressure equipment / system is provided with the needed safety accessories and these accessories are in good operating condition;
c) All the devices designed to release the contents will operate safely.

2.17 Internal Inspection: Inspection activity intended to examine the internal parts of the pressure equipment / systems to prevent and determine the extent and severity of any damage (e.g. internal corrosion).

2.18 Integrity Test: Inspection activity intended to examine the external and internal surface conditions. When internal parts cannot be directly inspected, the check should be carried out with Proof Test (see 1.19) and/or NDT inspections.

2.19 Proof Test: Test to evaluate the resistance to pressure, which will be normally performed by mean of a hydrostatic pressure test at 1.5 times the maximum allowable pressure PS or as per appropriate code

In case the hydrostatic pressure test is harmful or not feasible, an alternative test (pneumatic test) may be carried out at the value of 1.1 times the maximum allowable pressure PS.

Note: For tests other than the hydrostatic pressure test, additional measures, such as non destructive tests (NDT) or other methods of equivalent validity, must be applied before those tests are carried out.

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

2.20 Creep: The tendency of a solid material to slowly move or deform permanently under the influence of stresses; it occurs as a result of long term exposure to levels of stress that are below the yield strength of the material. Creep is more severe in materials that are subjected to heat for long periods and near the melting point, and always increases with temperature

Depending on the magnitude of the applied stress and its duration, the deformation may become so large that a component can no longer perform its function.
Creep is a deformation mechanism that may or may not constitute a failure mode.

2.21 Inspection Certificates: All original Inspection Certificates issued by a EIAC accredited IB, to indicate the compliance of pressure equipment with safety requirements and its fitness for use shall be a Certificate both in name, detail and format. Each certificate shall contain at least the details as specified under section 4.6.2.

2.22 Inspection Report: If the pressure equipment fails to comply with the requirements of the relevant Standards, an Inspection Certificate cannot be issued. In this case an Inspection Report shall be issued which shall contain the applicable information referred to in clause 4.6.2 of this document; in addition, a complete description will be included of the reasons why inspection of the pressure equipment was not satisfactory.

2.23 Shall: The word “Shall” is used when stating a mandatory requirement.

2.24 Should: The word “Should” is used when the statement is advisory

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as ‘Uncontrolled’. Always refer to the controlled online version.

3 General Requirements

3.1 The Inspection Body applying for accreditation as per this program must have a management system, which includes at least the following

3.1.1 Proper Documentation & operation of its policies, procedures and operations starting from receiving the request for a NDT evaluation, carrying out contract review, preparing for inspection, performing inspections, recording results and up to the issuance of the final report/certificate in accordance with the documentation requirements of ISO/ IEC 17020:2012 “Conformity assessment - Requirements for the operation of various types of bodies performing inspection” and any additional requirements set by EIAC here within this document and other related documents.

3.1.2 Facilities properly equipped with the equipment and instruments appropriate for the type and range of inspections under accreditation as minimum.

3.1.3 Employ the suitable and qualified technical and administrative staff in the inspection body (also see 4.1).

3.2 Legal Identification for commercial private inspection bodies shall be clearly identified (see the Law no.2: 2010 organizing the work of the Accreditation Bodies operating in the Emirates of Dubai), and must have passed the adequacy and compliance audits as per the requirements of the Law.

3.3 The Inspection Methods within accreditation program must be included in the official list of tests submitted by the inspection body (see Law no.2: 2010).

3.4 The Inspection Body shall prepare work program for its activities with a frequency suitable to its nature of work.

3.5 The Inspection Body shall have clear rules for the fees charged for the Inspection Services and for the issuance of the Certificate and the terms of payments for each. Fees charged by Inspection Body shall be for the Inspection Services and not for the sake of issuing a Certificate; the fee shall be chargeable even if a certificate is withheld.

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as ‘Uncontrolled’. Always refer to the controlled online version.

4 Specific Criteria of Competence

4.1 Requirements for Technical Competence of Staff.

4.1.1 The Inspection Body shall use personnel to carry out inspections of pressure 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 personnel was authorized to perform specific in-service inspection activities, the scope for which he is authorized and the sample of his signature. These records shall, as a minimum, indicate the class of pressure equipment as defined in clause 2.4 above, considered to be within the competence of those personnel.

The inspection body shall only authorize personnel to carry out in-service inspections of pressure equipment if the inspections are within the designated competence of those personnel and if that personnel holds the Category of qualification necessary to inspect the types of the equipments as shown in clause 2.4 and defined in section 4.1.4.

4.1.2 If staff is used to perform non-destructive testing in support of the Pressure Systems / equipment, the Inspection Body shall be able to demonstrate that staff engaged in NDT of pressure system / equipment have been trained and examined in accordance with a documented programme approved by a person holding at least Level 3 certification as defined in BS EN 473 or relevant reference code. Alternatively they should hold personnel certification to the appropriate level for each non-destructive testing method as defined in BS EN 473 or personnel certification from a nationality recognized scheme such as ASNT or other.

4.1.3 Where the personnel of the Inspection Body carry out in-house calibrations of inspection, measuring and test equipment, the records of their training, qualifications and experience shall be maintained together with details of who is authorized to perform specific calibrations.

4.1.4 Educational Background and Qualifications:

Inspection Body shall ensure that the competent personnel carrying out a thorough examination has such appropriate practical and theoretical knowledge and experience of the pressure equipment to be thoroughly examined as will enable them to detect defects or weaknesses and to assess their importance in relation to the safety and continued use of the pressure equipment. The inspection body shall have at least one or two senior permanent staff as follows:

a) Chief/Senior Inspector (or however named): at least 15 years of hands-on experience within a relevant engineering discipline of which at least 10 years shall have been spent working within an engineering discipline related to pressure equipment, or, if he holds B.Sc. Engineering Degree, shall have at least 8 years experience with minimum 4 years working within an engineering discipline related to pressure equipment.

b) Inspectors: at least 3 years hands-on experience spent working within an engineering discipline related to pressure equipment, or if he holds B.Sc. Engineering Degree, shall have at least 1 years experience working within an engineering discipline related to pressure equipment.

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

c) No inspector is allowed to perform inspection independently without having appropriate qualification and training. The Inspection Body shall assess the competence of all categories of persons mentioned above and this assessment shall cover relevant knowledge of the relevant laws, local & admin orders, codes of practice and inspection techniques. EIAC shall be given the opportunity to review the means of such an assessment.

4.1.5 Levels of Supervision and Requirements for Technical Support:

The extent and frequency of supervision and technical support exerted by the Inspection Body management over its staff must be proportional to the volume of work taken by the Inspection Body, the level of experience and training of the technical staff, the criticality of equipment under inspection and existence of regulatory requirements for the concerned field of inspection. No under-training-inspector shall be allowed to perform inspection activities independently under any circumstances. Following are the classified levels of supervision that must be exerted by the Inspection Bodies and circumstances under which they shall be exerted:

a) Occasional (on Senior Inspectors)

Formal, direct contact to review work with Supervisor at least annually. If the senior inspector is the highest level of competence in the IB then he is responsible for holding sufficient records that review of his work has been done as per this requirement either by him or by any of his peers. More frequent direct contact with Supervisor may be necessary Technical support from persons qualified to peer senior inspector to be readily available.

b) Frequent (on inspectors)

Direct contact with Supervisor at least weekly. Technical support from persons qualified to senior inspector. The responsibility for approving or rejecting a Pressure Vessel (Judgement), should clearly lie with the Senior Inspector. Inspectors can only provide information based on checklists, which can be used by the Senior Inspector to decide or approve on the outcome of the Inspection

c) Constant (on inspectors under-training)

Direct daily contact with Supervisor. Technical support from persons qualified to senior inspector or inspector to be readily available.

4.1.6 Training and further development

4.1.6.1 The training provided by the Inspection Body to its staff shall provide a working knowledge of the plants or construction sites or other locations (where equipment are used), equipment and systems including design construction, operation, maintenance, significance of defects, typical problem areas and associated method of rectification.

4.1.6.2 The Chief/Senior Inspector (or however named), should have API qualifications related to Pressure Vessels / Tanks / Piping

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

4.1.6.3 The training shall include the safe conduct of the inspectors' duties, in particular safe practices applicable to pressure equipment, risk assessment, knowledge of applicable statutory requirements, codes of practice and standards.

4.1.7 Assessment of inspectors for the purpose of accreditation: Inspectors will be assessed by witnessing their performance in the field. Not all inspectors may be assessed during the first visit but all inspectors will be assessed within the 3-year validity period of the accreditation.

4.2 Requirements for Site[1] Work

4.2.1 Preparation for Site work:

a) Prior to going to site, the Inspection Body must ensure the following:

b) All needed Personnel Protective Equipment that ensure safety of personnel on site are taken to site (e.g. for internal inspections: the owner or user should prepare the boiler or vessel taking all the safety precautions – fuel supply and water ignition insulation, ventilation inside – before entry into boiler or vessel);

c) Critical test equipment must be checked prior to leaving secure storage before inspection;

d) The Inspection Body shall allocate inspection activities based from the work program for each inspector in the form of Work Orders. Work Orders to be used by inspectors on site shall contain the following information as minimum:

e) Upon / preferably before arriving at any inspection site, there shall also be an obligation from the IB for the inspector to enquire the following information:

- Identifiable number traceable to the client request/contract;
- Type of the equipment and related information about critical items to be inspected;
- Site Location (site map is recommended to be provided)
- Instructions for inspections
- Contact person on behalf of the IB's client.

f) The IB for the safety of its inspector shall verify during the work order the competency of the operator 2 of the pressure equipment / systems to carry out all operations required by the relevant standards, if applicable; i.e. for some security accessories tests on steam boiler, the competence of the operator is critical to the safety of the pressure equipment and personnel in the vicinity, according to the applicable standards. The IB shall document the result of verifying the operator competency of the pressure equipment / systems at the time of the inspection, either within the same inspection certificate / report or in a separate report, specifying the operator name, the

[1] Site: Place at which inspection is being undertaken

[2] "Competency of Operator" means in this context that the person who is required to operate the controls of the pressure equipment's accessories understands what operations of the pressure equipment's accessories will follow when each control is moved and the consequence of each movement on the pressure equipment.

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

equipment for which his competence was checked, the criteria used for verifying his competence and date of inspection.

4.3 Requirements for Site[3] Work

4.3.1 Inspectors Checklists:

The Inspection Body shall use Checklist forms containing all the requirements of relevant BS / EN or relevant inspection Standards prepared internally and approved by EIAC. The checklist forms shall contain sufficient space to indicate the results of evaluating the inspection methods. The Inspector must sign in the checklist after recording all necessary information.

The Chief or senior Inspector / Engineer must co-sign the checklist whenever he makes verification visits to the site.

4.3.2 Reporting discontinuities/ Defects in equipment under inspection:

a) Inspectors are required to be capable of making identification of all types of discontinuities/ defects found in the equipment under inspection; if the equipment is found unsafe and represents an imminent danger, the IB must advise the owner to cease use of the equipment and report this incident immediately to the related authorities in Dubai.

b) Pressure Equipment Identification: The IB's must ensure the ability to identify pressure equipment by say Serial Number, or some form of Registration Number. If the pressure equipment (and some of the critical components) cannot be identified the IB shall consider this as a defect which must be reported immediately to related authority in Dubai.

4.4 Inspection Methods and Procedures

4.4.1 Methods and Procedures to be used:

The Inspection Body shall use the relevant up-to-date BS and/or BS EN or relevant Standards in the field of inspection of pressure equipment for performing inspection, as detailed in Annex 1[4] to this document.

In addition to the relevant BS and/or BS EN Standards, the manufacturer's technical literature applicable to the equipment shall also be part of the inspection methods.

It is the responsibility of the Inspection Body to ensure that these requirements and relevant Standards detailed in Annex 1 are available at the IB offices.

4.4.2 Inspection Frequencies:

The mandatory inspection frequencies for all Contractors' "Pressure Equipment / Systems" are summarized in Annex 2.

[3] Site: Place at which inspection is being undertaken

[4] Annex 1 is subject to review depending on the expansion of EIAC scope of services.

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

4.4.2.1 Inspections on Safety and Pressure Accessories are carried out with the same frequency of the Pressure Equipment / Systems on which they are installed.

4.4.2.2 Inspections on Pressure Equipment operating under creep conditions are carried out with specific frequency resulting by suitable residual life calculation (e.g API 510).

4.4.3 General Requirements:

a) For all pressure Equipment the first inspection shall include all functional tests and safety accessories tests.
b) Periodic (Functionality, Internal, Integrity) inspection of "Pressure Equipment / Systems" shall also include the following:
c) Identification of all critical components and areas;
d) detailed visual inspection of all structural and critical components;
e) Tolerance checking where any wear is observed;
f) Checking of tolerances for wear limit on critical components;
g) Checks for corrosion;
h) Non-destructive examination (NDE) carried out in the critical or high stress areas of the pressure equipment for evidence of cracking or other defect; High stress areas such as connections, weldments, Heat affected zones should be clearly defined in the procedure.
i) Proof Test, when applicable.

In the event of a 'repair' or "major alteration" the pressure equipment shall be subjected to a "Thorough inspection" and 'Proof Test" or other inspections specified by a competent person, prior to being returned to normal service. Proof Test can be only conducted by specialized technical team with all the safety precautions and apparatus. The responsibility of IB and the Hydro-test subcontractor should be clearly mentioned. Inspector can only witness the test.

4.5 Internal Quality Audits

4.5.1 The internal quality audit program shall include the on-site assessment of inspection personnel carrying out inspections.

4.5.2 On-site internal audit shall be carried out by personnel with the relevant technical qualifications and experience, who have been trained in internal auditing and who are sufficiently independent to carry out the audit objectively.

4.5.3 The Inspection Body's internal quality audit program for on-site audit of inspectors shall be designed so that within each cycle of the program at least one inspector is assessed thoroughly on site. The program shall also ensure that each of the inspectors engaged in inspection is assessed at least once within a period of 3 years for each of the fields in which they are active.

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

4.5.4 The audit program shall ensure that where inspections are managed from locations other than a central location e.g. Branch Offices, including those located overseas, the audit program encompasses these different locations in a systematic way over the 3 year period of validity of accreditation.

4.6 Equipment Used for Inspection

Testing equipment and instruments owned or used by the Inspection Body for testing, measuring, gauging (functional or other tests) of pressure equipment shall comply with the relevant requirements of clause 9 in the ISO/IEC 17020.

4.7 Inspection Certificate / Report:

4.7.1 After having completed an inspection on pressure equipment and found no significant issues, the Inspection Body must issue an Inspection Certificate for Pressure Equipment.

4.7.2 The Inspection Body shall produce an Inspection Certificate for pressure Equipment / Systems on the inspection to fulfil the client's needs, the related authority requirements and the applicable clauses of BS/ BS EN or relevant Standards. The certificate shall include the following information as a minimum; the elements of inspection certificates/reports that are considered to be mandatory for compliance with ISO/IEC 17020 are marked with an asterisk (*):

1* Designation of the document, i.e. as an inspection report or an inspection certificate, as appropriate
2* Identification of the document, i.e. date of issue and unique identification
3* Identification of the issuing Inspection Body - name and address of the IB issuing / endorsing the certificate
4* Identification of Pressure equipments Owner's/ Contractor's name and address
5* Description of the inspection work ordered
6* Date(s) of inspection and type of inspection
7 Information on where the inspection was carried out (address of the premises at which the Inspection was made)
8 Manufacturer or Supplier of equipment name and address
9* Identification of the object(s) inspected and, where applicable, identification of the specific components that have been inspected and identification of locations where e.g. NDT methods have been applied,
10 Unique Identification Numbers, brief description and PS / TS of the equipment
11 Any reservations or restrictions on the use or Maximum Capacity of the equipment
12* Information on what has been omitted from the original scope of work
13* Identification or brief description of the inspection method(s) and procedure(s) used, mentioning the deviations from, additions to or exclusions from the agreed methods and procedures
14 Identification of equipment used for measuring / testing
15 Where applicable, and if not specified in the inspection method or procedure, reference to or description of the sampling method and information on where, when, how and by whom the samples were taken

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

16* If any part of the inspection work has been subcontracted, the results of this work shall be clearly identified

17 The due date of next Inspection

18 The due date of next Proof Test, if applicable

19 Applicable Reference Standard / Code

20 Details of any major repairs / alterations carried out on the equipment, provided that the clients inform IB's inspector of any modifications or structural repairs

21 Details of latest Inspection / Tests previously performed, including any NDT if possible,

22 Measuring units (for Capacity / Volume) shall be in either/both Metric System (m3) or Imperial System (gallon)

23 Information on environmental conditions during the inspection, if relevant

24* The results of the inspection including a declaration of conformity and any defects or other non-compliances found (results can be supported by tables, graphs, sketches and photographs)

25 A statement that the inspection results relate exclusively to the work ordered or the object(s) or the lot inspected

26 A statement that the inspection certificate/report shall not be reproduced except in full without the approval of the inspection body and the client

27 The inspector's mark or seal, if any

28* Names (or unique identification) of the staff members who have performed the inspection and in cases when secure electronic authentication is not undertaken, their signature (see also clause 13.3 of ISO/IEC 17020)

29 Name, Signature and Designation of signing Authority of IB (if different from the inspector who performed the test)

30 Clearly defined Liability Clause of the IB.

Certificates issued by third party IB that fail to give any of the above details will be liable to rejection by the relevant authority in Dubai. The Certificate shall be signed by the authorized Inspector who has performed the inspection or by any other appropriate authority assigned by the IB. Computer-generated or rubber stamped signatures are not allowed on the Certificates. Certificates not conforming to the above mentioned requirements shall be rejected.

4.7.3 Professional Judgment that is included in the certificate will form part of the assessment and will be subject to accreditation.

4.7.4 If the inspection commissioned by the client could not be carried out in full or in part, a written notification to that effect shall be given to the client.

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

4.7.5 When an Inspection Body undertakes an inspection of Pressure Equipment / Systems and finds items that do not comply with the requirements of the relevant Standards and therefore declines to issue an Inspection Certificate, the IB must issue a separate document called an Inspection Report.5

Re-inspection for pressure equipment has to be performed by the same IB with the same inspector or equally capable inspector in the specific area(s)in charge for the failed inspection.

When issuing Inspection Reports, the Related Authority shall be immediately informed in writing without exception. There would not be any response to the Inspection Reports by the Related Authority, unless there is a subsequent accident. They shall remain on file for 12 months – 2 years, after which they will be destroyed (provided Inspection Certificates stay at 1 year currency period).

In the case of an accident involving a pressure equipment inspected by accredited IB and as a result of the official investigation it was determined that the accredited IB was responsible, EIAC shall immediately suspend the IB's Accredited related scope and exclude the inspector who performed the concerned inspection from the authorization list of approved inspectors. An immediate detailed special assessment will be carried out by EIAC related to Quality Management System and technical competence of the IB under suspension and subsequently relevant clauses of EIAC-RQ-GNL-001 related to suspension & withdrawal of accreditation will be applicable.

In case the accident involved serious injuries or was fatal, the Head of Section reserves the right to withdraw the accreditation for the related scope with immediate effect.

4.7.6 Currency of Certificates of Safety. An Inspection Certificate shall be issued with a nominal life as specified in Annex 2 of this document. Each Inspection Certificate may be subject to evaluation as determined by the relevant authority and whenever the pressure equipment / systems is involved in an accident.

However the validity of this certificate is based on the pressure equipment being maintained and operated in accordance with all of the recommendations made by the manufacturer and not suffering any damage.

Therefore the Inspection Body must only issue an Inspection Certificate after verifying that the pressure equipment/systems is likely to normally operate within its capacity in accordance with the relevant safe operating limits (PS and TS) for at least 12 months.

4.7.7 4.6.7 The designated signatories shall only be authorized by the Inspection Bodies to sign their own Inspection Certificates and Inspection reports. The designated signatory must assume responsibility for the technical validity and accuracy of all information contained in the Inspection Certificate and Inspection Reports.

A designated signatory must have carried out a minimum of inspections for each type of equipment under competent supervision before being authorized to undertake inspections alone. Each Inspection Body shall at the

[5] Inspection Report shall contain the applicable information referred to in clause 4.6.2 of this document; in addition to the full description as to why the pressure equipment failed the inspection.

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

early stage of the implementation process designate appropriately qualified persons to perform the required inspections and that the Approved Signatories provisions of ISO/IEC 17020 and this document shall be adopted.

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

5 References

5.1 Regulation No. 2/ 2010 regarding arranging the operation of conformity assessment bodies operating in the Emirates of Dubai

5.2 ISO/IEC 17020 Conformity assessment - Requirements for the operation of various types of bodies performing inspection

5.3 HSE's Approved Code of Practice for "Safety of pressure systems"

5.4 EIAC-RQ-GEN-001 General Accreditation Requirements.

5.5 EIAC-RQ-GEN-002 The condition for the use of Accreditation symbol and ILAC MRA/IAF MLA Marks.

5.6 EIAC-RQ-GEN-003 Emirates International Accreditation Centre Fees Structure.

5.7 ASME Code, API and BS EN Standards mentioned in Annex 1 of this document and all relevant standards referred to by them

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

6 Annex 1: List of BS EN Standards

Product	Task name	Standard
Unfired Pressure equipment inspection	Pressure equipment - Terminology. Pressure, temperature, volume, nominal size	BS EN 764-1:2004
	Pressure equipment - Quantities, symbols and units	BS EN 764-2:2002
	Pressure equipment - Definition of parties involved	BS EN 764-3:2002
	Pressure equipment - Establishment of technical delivery conditions for metallic materials	BS EN 764-4:2002
	Pressure equipment - Compliance and inspection documentation of materials	BS EN 764-5:2002
	Pressure equipment - Structure and content of operating instructions	DD CEN/TS 764-6:2004
	Pressure equipment - Safety systems for unfired pressure vessels	BS EN 764-7:2002
Refrigerating systems and heat pumps	Refrigerating systems and heat pumps - Safety and environmental requirements - Installation site and personal protection	BS EN 378-3:2008
	Refrigerating systems and heat pumps - Safety and environmental requirements - Operation, maintenance, repair and recovery	BS EN 378-4:2008
	Refrigerating systems and heat pumps - Safety switching devices for limiting the pressure. Requirements and tests	BS EN 12263:1999
	Refrigerating systems and heat pumps - Valves. Requirements, testing and marking	BS EN 12284:2003
Cryogenic Vessels	Cryogenic vessels - Cleanliness for cryogenic service	BS EN 12300:1999
	Cryogenic vessels - Static vacuum insulated vessels - Operational requirements	BS EN 13458-3:2003
	Cryogenic vessels - Safety devices for protection against excessive pressure - Safety valves for cryogenic service	BS EN 13648-1:2008
	Cryogenic vessels - Safety devices for protection against excessive pressure - Bursting disc safety devices for cryogenic service	BS EN 13648-2:2002
	Cryogenic vessels - Safety devices for protection against excessive pressure - Determination of required discharge. Capacity and sizing	BS EN 13648-3:2002
	Cryogenic vessels - Static non-vacuum insulated vessels - Operational requirements	BS EN 14197-3:2004

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

Product	Task name	Standard
Water-Tube Boilers	Water-tube boilers and auxiliary installations - General	BS EN 12952-1:2001
	Water-tube boilers and auxiliary installations - In-service boiler life expectancy calculations	BS EN 12952-4:2000
	Water-tube boilers and auxiliary installations - Workmanship and construction of pressure parts of the boiler	BS EN 12952-5:2001
	Water-tube boilers and auxiliary installations - Inspection during construction, documentation and marking of pressure parts of the boiler	BS EN 12952-6:2002
	Water-tube boilers and auxiliary installations - Requirements for equipment for the boiler	BS EN 12952-7:2002
	Water-tube boilers and auxiliary installations - Requirements for firing systems for liquid and gaseous fuels for the boiler	BS EN 12952-8:2002
	Water-tube boilers and auxiliary installations - Requirements for firing systems for pulverized solid fuels for the boiler	BS EN 12952-9:2002
	Water-tube boilers and auxiliary installations - Requirements for safeguards against excessive pressure	BS EN 12952-10:2002
	Water-tube boilers and auxiliary installations - Requirements for boiler feed water and boiler water quality	BS EN 12952-12:2003
	Water-tube boilers and auxiliary installations - Requirements for flue gas cleaning systems	BS EN 12952-13:2003
	Water-tube boilers and auxiliary installations - Requirements for flue gas DENOX-systems using liquefied pressurized ammonia and ammonia water solution	BS EN 12952-14:2004
	Water-tube boilers and auxiliary installations - Acceptance tests	BS EN 12952-15:2003
	Water-tube boilers and auxiliary installations - Requirements for grate and fluidized-bed firing systems for solid fuels for the boiler	BS EN 12952-16:2002
Shell Boilers	Shell boilers - General	BS EN 12953-1:2002
	Shell boilers - Inspection during construction, documentation and marking of pressure parts of the boiler	BS EN 12953-5:2002
	Shell boilers - Requirements for equipment for the boiler	BS EN 12953-6:2002
	Shell boilers - Requirements for firing systems for liquid and gaseous fuels for the boilers	BS EN 12953-7:2002

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

Product	Task name	Standard
Shell Boilers	Shell boilers - Requirements for safeguards against excessive pressure	BS EN 12953-8:2001
	Shell boilers - Requirements for limiting devices of the boiler and accessories	BS EN 12953-9:2007
	Shell boilers - Requirements for feedwater and boiler water quality	BS EN 12953-10:2003
	Shell boilers - Acceptance tests	BS EN 12953-11:2003
	Shell boilers - Requirements for grate firing systems for solid fuels for the boiler	BS EN 12953-12:2003
Metallic industrial piping	Metallic industrial piping - Fabrication and installation	BS EN 13458-4:2002
	Metallic industrial piping - Inspection and testing	BS EN 13458-5:2002
	Metallic industrial piping - Additional requirements for buried piping	BS EN 13458-6:2004
LPG Tanks	Equipping of LPG tanks, overground and underground	BS EN 14570:2005

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

7 Annex 2: List of ASME Code Standards

Standard Ref.		Product
BPVC-I - 2010	Section I-Power Boilers	This Code has rules for construction of power, electric, and miniature boilers; high temperature water boilers for stationary service; and power boilers for locomotive, portable, and traction service.
BPVC-II - 2010	Section II- Materials Part A: Ferrous Material Specifications Part B: Nonferrous Material Specifications Part C: Specifications for Welding Rods, Electrodes, and Filler Metals Part D: Properties (Customary) Part D: Properties (Metric)	This Code provides material specifications for materials adequate for safety for pressure equipment construction. It includes requirements for mechanical properties, test specimens, methods of testing and tables of design stress, tensile and yield strength values, and tables and charts of material properties.
BPVC-IV - 2010	Section IV - Rules for Construction of Heating Boilers	This Code provides rules for design, fabrication, installation and inspection of steam generating boilers, and low pressure hot water boilers that are directly fired by oil, gas, electricity, or coal.
BPVC-VI - 2010	Section VI-Recommended Rules for the Care and Operation of Heating Boilers	This Section has guidelines applicable to steel and cast iron boilers within the operating range for Section IV Heating Boilers, including associated controls and automatic fuel burning equipment.
BPVC-VII - 2010	Section VII-Recommended Guidelines for the Care of Power Boilers	This Section has guidelines applicable to stationary, portable, and traction type boilers within the operating range for Section I Power Boilers, to assist operators in maintaining plant safety.
BPVC-VIII - 2010	Section VIII-Rules for Construction of Pressure Vessels Division 1	This Division of Section VIII provides requirements for design, fabrication, inspection, testing, and certification of fired or unfired pressure vessels operating at pressures exceeding 15 psig.
BPVC-VIII -2- 2010	Section VIII-Rules for Construction of Pressure Vessels Division 2-Alternative Rules	This Code has requirements for construction and certification of pressure vessels operating at pressures over

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

		15 psig using design by analysis methods, and design stresses higher than Division 1
Standard Ref.		**Product**
BPVC-VIII -3- 2010	Section VIII-Rules for Construction of Pressure Vessels Division 3-Alternative Rules High Pressure Vessels	This Code provides requirements applicable to the design, fabrication, inspection, testing, and certification of pressure vessels operating at either internal or external pressures above 10,000 psi.
BPVC-IX - 2010	Section IX-Welding and Brazing Qualifications	This Code has rules for qualification of welding and brazing procedures and welders, brazers, and welding and brazing operators for component manufacture. Data cover variables for the process used.
BPVC-X - 2010	Section X-Fiber-Reinforced Plastic Pressure Vessels	This Code has requirements for construction of an FRP pressure vessel including production, processing, fabrication, inspection and testing methods required for two Classes of vessel design.
BPVC-XII - 2010	Section XII-Rules for Construction and Continued Service of Transport Tanks	This Code covers construction and continued service of pressure vessels for transportation of dangerous goods by highway, rail, air or water at pressures up to 3,000 psig and volumes over 120 gallons.
PCC-2 -2008	Repair of Pressure Equipment and Piping	This standard provides post-construction repair techniques for metallic pressure equipment & piping. 17 articles cover repairs with welding, mechanical, & non-metallic techniques & pressure testing.
B31.3 - 2006 Process Piping		This Code contains requirements for piping typically found in petroleum refineries; chemical, pharmaceutical, textile, paper, semiconductor, & cryogenic plants, & related processing plants terminals.
B36.19M - 2004 Stainless Steel Pipe		This Standard provides dimensions of welded and seamless wrought stainless steel pipe for high or low temperature and pressure applications.
B31.2 - 1968 Fuel Gas Piping		This Code covers the design, fabrication, installation, and the testing of piping systems for fuel gases used in buildings and between buildings from the meter outlet to the first pressure valve.

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

ANSI / API 510	Pressure Vessel Inspection Code: In-Service Inspection, Rating, Repair, and Alteration
ANSI / API 570 Repair of Pressure Equipment and Piping	Piping Inspection Code, Inspection, Repair, Alteration, and Rerating of In-service Piping Systems (includes addendas)
API 579-1/ASME FFS-1 2007 Fitness-For-Service	Fitness-For-Service (FFS)
API RP 580	Risk-Based Inspection
API Std 653	Tank Inspection, Repair, Alteration, and Reconstruction

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

8 Annex 3: Onshore "Pressure Equipment" Frequencies for Testing / Inspection

Pressure Equipment Type		Frequency For		
		Functionality Test	Internal Inspection	Integrity Test
1	WATER-TUBE BOILERS SHELL BOILERS	Every year	Every two (2) years	Every ten (10) years
2	UNFIRED PRESSURE VESSELS (Ps > 0,5 bar – V > 1 L)	Every year	/	Every ten (10) years
3	CRYOGENIC VESSELS	Every year	/	Every ten (10) years
4	PIPING (Ps > 0,5 bar – DN > 80)	/	/	Every ten (10) years

Note: the pressure equipment not clearly cited in the table above are not subjected to the periodical tests.

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.