

REFERENCE SYLLABUS

For

INSPECTOR CERTIFICATION

**CERTIFICATE of COMPETENCY
EXAMINATION**

This syllabus is revised to incorporate the changes to the Pressure Equipment Safety Regulation effective on April 1, 2006

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1. Who is it for?

Knowledge of Safety Codes Act & Regulations and ABSA's Policies in regards to design, construction, repair, alteration, testing and operation of pressure equipment is essential to assure safety. The purpose of the Inspector Certification Examination is to assure that the personnel engaged in the design, construction, repairs and operation of pressure equipment are familiar with the requirements of the Safety Codes Act and Regulations and adopted Codes & Standards, and their application.

Inspectors employed under the Owner-User Pressure Equipment Integrity Management Program or Accredited Inspection Agency Program must challenge and pass the Inspector Certification Examination administered by ABSA and, in addition, satisfy all the qualification requirements listed in the Owner-User Program or the Accredited Inspection Agency Program. Upon passing the examination, the inspectors will be certified as 'In-service Boiler and Pressure Vessel Inspector' or 'In-service Pressure Vessel Inspector'. The certification will make the inspector eligible for appointment as an 'In-Service Boiler and Pressure Vessel Inspector or In-Service Pressure Vessel Inspector' by his/her employer.

2. ABSA's Requirements for the Examination:

To challenge the certification examination, the candidate must:

1. submit an application,
2. pay the application fee and examination fee as shown on the application form AB-88, and
3. meet the education, experience and third party certification requirements.

For detailed information about the In-service Pressure Equipment Inspector Certification program, access <http://www.absa.ca/>, 'In-service Pressure Equipment Inspector Certification program'.

3. How to apply.

The Application Form AB-88, 'Application for Pressure Equipment Safety Legislation Certification', must be completed and submitted with the application and examination fee to:

ABSA, the pressure equipment safety authority
Education and Certification Department
9410-20 Avenue
Edmonton, AB
T6N 0A4
Phone: (780) 437-9100 or 1-888-454-3926 (Exams only)

Fax: (780) 437-7787

To download the Application Form AB-88, access <http://www.absa.ca/> , 'ABSA Forms' and [AB-88](#).

4. Syllabus and Reference Study Material

Examination QUESTIONS were created from the latest editions of the Safety Codes Act & Regulations, Codes and Standards.

<u>Syllabus</u>	<u>Expected Level of Knowledge</u>	<u>Reference Study Material</u>
<p>1 PROVINCIAL LEGISLATION</p> <p>Thorough understanding and working knowledge of the Alberta Safety Codes Act and Regulations for pressure equipment:</p> <ul style="list-style-type: none"> a. Safety Codes Act b. Pressure Equipment Exemption Order (AR 56/2006) c. Power Engineers Regulation (AR 85/2003) d. Pressure Welders Regulation (AR 169/2002) e. Pressure Equipment Safety Regulation (AR 49/2006) f. Administrative Items Regulation (AR 16/2004) g. Boilers Delegated Administration Regulation (AR 32/2002) 	<p>Thorough</p>	<p>Safety Codes Act and Regulations listed under the 'Syllabus'. www.gov.ab.ca or from ABSA</p>
<p>2 CSA CODE B51 BOILER, PRESSURE VESSEL, AND PRESSURE PIPING CODE</p>	<p>Thorough</p>	<p>CSA B51 Code www.csa.ca</p>
<p>3 CODES AND STANDARDS ADOPTED AS REGULATIONS:</p> <ul style="list-style-type: none"> a. ASME Boiler & Pressure Vessel Code <ul style="list-style-type: none"> • ASME Section I - Rules for Construction of Power Boilers • ASME Section II - Materials <ul style="list-style-type: none"> - Part A - Ferrous Material Specifications - Part B - Non-ferrous Material Specifications - Part C - Specifications for Welding Rods, Electrodes, and Filler Metals - Part D - Properties • ASME Section IV - Rules for Construction of Heating Boilers • ASME Section V - Nondestructive Examination. • ASME Section VI - Recommended Rules 	<p>Understanding of the Scope and Application of the Codes and Standards listed under the 'Syllabus'.</p> <p>Thorough Knowledge of the body of the Codes and Standards is not necessary.</p>	<p>Foreword, Preamble, Introduction and Scope sections of the Codes and Standards.</p>

<u>Syllabus</u>	<u>Expected Level of Knowledge</u>	<u>Reference Study Material</u>
<p>for the Care and Operation of Heating Boilers.</p> <ul style="list-style-type: none"> • ASME Section VII - Recommended Guidelines for the care of Power Boilers. • ASME Section VIII, Division 1 - Construction of Pressure Vessels. • ASME Section VIII, Division 2 - Alternative Rules. • ASME Section VIII, Division 3 - Alternative Rules for Construction of High Pressure Vessels. • ASME Section IX - Welding and Brazing Qualifications. • ASME SECTION X – Fiber-Reinforced Plastic Pressure Vessels. <p>b. ASME Code for Pressure Piping</p> <ul style="list-style-type: none"> • ASME B31.1 - Power Piping. • ASME B31.3 - Process Piping. • ASME B31.5 - Refrigeration Piping. • ASME B31.9 - Building Services Piping <p>c. ASME CSD -1 - Controls and Safety Devices for Automatically Fired Boilers.</p> <p>d. NFPA 58, storage and handling of liquefied petroleum gases.</p> <p>e. ANSI K61.1, Safety requirements for the storage and handling of Anhydrous Ammonia.</p> <p>f. CSA B52 Mechanical Refrigeration Code.</p> <p>g. MSS Standard Practice SP-25, Standard marking system for valves, fittings, flanges and unions.</p>	<p>Working Knowledge</p>	<ul style="list-style-type: none"> • Boilers Delegated Administration Regulation: www.gov.ab.ca/qp • ABSA's web site 'About ABSA'.
<p>4 ABSA, the pressure equipment safety authority</p> <ul style="list-style-type: none"> a. The Boilers Delegated Administration Regulation b. The authority and responsibility of the Chief Inspector / Administrator for the Boilers and Pressure Vessels Discipline. c. ABSA's responsibility as a Jurisdictional Authority. d. ABSA's responsibility as an ASME Authorized Inspection Agency. e. The various programs ABSA administers under the Delegation Agreement. 		

<u>Syllabus</u>	<u>Expected Level of Knowledge</u>	<u>Reference Study Material</u>
<p>5 SAFETY CODES COUNCIL, BOILER TECHNICAL COUNCIL, GOVERNMENT</p> <p>a. Understand the purpose and responsibility of the Safety Codes Council and the Boilers and Pressure Vessels Technical Council.</p> <p>b. Relationships between the Minister responsible for the Safety Codes Act, and the Safety Codes Council, the Boilers and Pressure Vessel Technical Council, and ABSA.</p> <p>c. Hierarchy and relationship of the Safety Codes Act, Regulations and adopted codes and standards and the mandatory requirements thereunder.</p>	<p>Working Knowledge</p>	<ul style="list-style-type: none"> • Safety Codes Council's web site: www.safetycodes.ab.ca • Attachment 1
<p>6 ASME, NATIONAL BOARD, AMERICAN PETROLEUM INSTITUTE</p> <p>a. Purpose and structure of the ASME, The National Board of Boiler and Pressure Vessel Inspectors, and The American Petroleum Institute.</p> <p>b. Application of the API Standards and National Board Inspection Code NB 23.</p>	<p>Working Knowledge</p>	<ul style="list-style-type: none"> • ASME web site: www.asme.org • API web site: www.api.org • NB web site: www.nationalboard.org
<p>7 ACCIDENT INVESTIGATION</p> <p>a. Definition of an Accident.</p> <p>b. Requirements on accident investigation and reporting under the Safety Codes Act and Regulations relative to pressure equipment.</p>	<p>Working Knowledge</p>	<ul style="list-style-type: none"> • Pressure News, V 5, Issue 3. ABSA's web site. • Safety Codes Act.
<p>8 QUALITY SYSTEMS</p> <p>a. Requirements under the Safety Codes Act governing the Registration of Quality Systems in Alberta.</p> <p>b. Requirements under the Safety Codes Act governing the issuance of Certificates of Authorization.</p> <p>c. ABSA's Quality System Manual design and application.</p> <p>d. Process required to achieve an ABSA Quality Program Certificate of Authorization.</p> <p>e. Responsibilities of Senior Management, the persons assigned responsibility for the overall program and the inspection program.</p>	<p>Working Knowledge</p>	<ul style="list-style-type: none"> a. Pressure Equipment Safety Reg. b. Pressure Welders Reg. c. ABSA web site: http://www.absa.ca/ d. Attachment 2 • QS Application Form AB 29 (available at ABSA's Web site).

<u>Syllabus</u>	<u>Expected Level of Knowledge</u>	<u>Reference Study Material</u>
<p>9 NEW CONSTRUCTION</p> <p>a. Authorized Inspection Agencies and Authorized Inspectors under CSA B51, ASME and National Board.</p> <p>b. ABSA's role as the Authorized Inspection Agency (AIA) for ASME Code and CSA B51 Code Construction.</p> <p>c. Knowledge of ABSA Safety Code Officer functions and responsibilities for new construction as an Authorized Inspector under the CSA B51 Code, ASME Code, and under Alberta Safety Codes Act and Regulations.</p> <p>d. The National Board Data Report Registration system for Pressure Vessels and Boilers.</p> <p>e. Requirement of Alberta, ASME, and CSA Data Reports for Pressure Vessels, Boilers and Fired Heaters.</p>	Working Knowledge	<ul style="list-style-type: none"> • CSA B51. • AI's role: ASME VIII-1, UG 90. • NB Data Reports: NB's Web site 'EDT'. • AIA's role: ASME QA1-1. • Data Reports: 4.6 of CSA B51, ASME VIII-1 UG 120, ASME I PG 112, ASME IV HG 120, Para 33 of Design, Const. Regulations.
<p>10 PRESSURE PIPING</p> <p>Forms and the Certification requirements for Boiler External Piping, Non-Boiler External Piping per B31.1 and Process Piping per B31.3 as referenced in the Alberta Design Construction and Installation Regulation, ABSA Forms AB-81, AB-83 and AB-96.</p>	Working Knowledge	Attachment 4
<p>11 REPAIRS/ALTERATIONS</p> <p>a. The ABSA Safety Codes Officer duties with respect to Repairs and Alterations.</p> <p>b. Use and applications of ABSA form AB-40.</p> <p>c. Requirements for re-rating Pressure Equipment in Alberta.</p> <p>d. Owner's and Repair/Alteration Organization's responsibilities under the Safety Codes Act & Regulations for repairs and alterations to pressure equipment.</p> <p>e. Application of Owner-User Program for Repairs/Alterations</p> <p>f. Requirements for missing nameplates.</p>	Working Knowledge	Attachment 5
<p>12 SAFETY CODES ACT REQUIREMENTS FOR NOTIFICATION OF CHANGE OF OWNERSHIP AND OTHER STATUS CHANGES</p> <p>a. Requirements for change of ownership and</p>	Working Knowledge	<p>a. Pressure Equipment Safety Reg.</p> <p>b. Attachment 6</p>

<u>Syllabus</u>	<u>Expected Level of Knowledge</u>	<u>Reference Study Material</u>
scrapping a vessel. b. Use of AB10 Form		
13 DESIGN REGISTRATION a. Requirements in Alberta for registering a design for new pressure equipment, and for repairs and alterations. b. Requirements for registering the design of used pressure equipment.	Working Knowledge	Pressure Equipment Safety Reg.
14 WELDING Requirements for: a. Registration of welding/brazing procedures. b. Pressure Welder Certificates of Competency B, C, Machine Welding Operators and Welding Examiner. c. Performance Qualification Cards d. Authorized Test Organizations.	Working Knowledge	<ul style="list-style-type: none"> • Pressure Equipment Safety Reg. • Pressure Welders Reg.
15 SERVICE INSPECTIONS Requirements for: a. Certificate of inspection permit including when they must be issued and the information that must appear on the certificates and retention of certificates b. Owner-User summary reports c. Initial Inspection and Installation inspections for both ABSA and Owner-User d. Alberta (A) identification number requirements e. Determining inspection and servicing intervals and inspection practices	Working Knowledge	<ul style="list-style-type: none"> • Attachment: Overview of O/U program. • 'Inspection and Servicing Requirements of Pressure Equipment' (at ABSA's web site)

5. Recommended Literature

- Alberta Safety Codes Act and Regulations (available from ABSA or Queens Printers or down load from Alberta Government's web site: www.gov.ab.ca/gp).
- CSA B51 (Latest Edition).
- Scope and Application of other Codes and Standards (Latest Editions) covered in the syllabus.
- Overview of Owner-User Requirements (available from ABSA).

Available at ABSA Web Site <http://www.absa.ca/>

- [Inspection and Servicing Requirements for Pressure Equipment](#)
- [Risk Based Inspection Programs for Pressure Equipment](#)
- [Fired Heater Guidelines](#)
- [Relevant Newsletter Articles](#)
- [Index for Newsletter Articles.](#)

6. Examination Areas

The examination is:

- Open book,
- 3 hours duration,
- 100 multiple-choice questions are broken down into the following 15 areas:

1	Safety Codes Act and Regulations	30
2	CSA B51	15
3	Codes and Standards	10
4	About ABSA	5
5	SCC, BTC & Government	5
6	ASME, NB, API	4
7	Accident Investigation	3
8	Quality Systems	5
9	New Construction	3
10	Pressure Piping	4
11	Repairs/Alterations	2
12	Change of Ownership	1
13	Design Registration	5
14	Welding	3
15	Service Inspections	5
	Total =	100

- The pass mark is 70%. The examination is graded as 'Pass' or 'Fail'.

7. Sample Questions

The questions may have more than one correct answer in the answers provided. Marks will be awarded for Complete Correct answers only. The questions are designed to test your knowledge of the Safety Legislation, ability to locate the complete and correct requirements from the applicable documents and also to educate you in the process.

<u>Q. No.</u>	<u>Question</u>	<u>Answer</u>	<u>Reference</u>
1	A Safety Codes Officer may: (a) Enter any premises. (b) Carry out an inspection. (c) review designs, examine and evaluate quality management systems for manufacturing and construction processes. (d) All of the above.	(d)	Safety Codes Act 34 (1, 2)
2	A person who is guilty of an offence under the provisions of the Safety Codes Act and is his/her second or subsequent offence, is liable: (a) to a fine of not more than \$30 000 and, in the case of a continuing offence, to a further fine of not more than \$2000 for each day or part of a day during which the offence continues after the first day, or (b) to imprisonment for a term not exceeding 12 months, or (c) to both fines and imprisonment. (d) Any of the above.	(d)	Safety Codes Act 68
3	A pressure piping system having an aggregate internal capacity of _____ or less is exempt from Design Registration with ABSA: (a) 500 litres. (b) 42.5 litres. (c) 1.5 m ³ . (d) (d) 750 litres.	(a)	Pressure Equipment Safety Reg. S 14(6)(a)

- 4 To take charge of the general care and operation of a power plant of 10,000 KW or more as a chief steam engineer, you must hold:
- (a) First Class Engineer's Certificate of Competency;
 - (b) Second Class Engineer's Certificate of Competency;
 - (c) Third Class Engineer's Certificate of Competency;
 - (d) Fourth Class Engineer's Certificate of Competency.
- (a) Power Engineers Regulations Table 1
- 5 To weld on pressure equipment that is under the Safety Codes Act and Regulations, a Welder must work under the Quality System of a Certificate of Authorization holder, and, in addition hold the following:
- (a) A valid 'B' or 'C' Pressure Welder Certificate of Competency.
 - (b) A valid Performance Qualification Card qualifying him/her to weld on specific materials, thickness and diameter ranges.
 - (c) All of the above.
 - (d) None of the above.
- (c) Pressure Welders Regulation 2(1) 3(1) 6(a), (c), (d), and (e)
- 6 To assure that the design of a vessel or boiler is registered in Alberta, what would you look for in the CRN stamped on the Name Plate:
- (a) Digit 2 after the decimal.
 - (b) Digit 5 after the decimal.
 - (c) Digit C after the decimal.
- (a) CSA B51, Part 1-4.3.2

- | | | | |
|----|--|-----|--|
| 7 | Per ASME Section VIII-1, when non-pressure parts are welded directly to the pressure containing surface of the pressure vessel, the scope shall include: | (d) | ASME VIII-1-U-1(e)(2) |
| | <ul style="list-style-type: none"> (a) Design. (b) Fabrication. (c) Testing. (d) All of the above. | | |
| 8 | Who is required to use the services of a registered Quality System Certificate of Authorization Permit holder? | (d) | Pressure Equipment Safety Reg. Section 11 |
| | <p>Any one who wishes to have:</p> <ul style="list-style-type: none"> (a) Boilers, Pressure Vessels, Pressure Piping systems, Thermal Liquid Heaters and Fittings constructed in Alberta for use in Alberta. (b) Boilers, Pressure Vessels, Pressure Piping systems and Fittings Repaired/Altered in Alberta (c) Pressure Relief Valves Serviced/Repaired/Set or Sealed. (d) All of the above. | | |
| 9 | An ABSA Inspector may: | (d) | Safety Codes Act Section 34(1); ASME V-T-170(a)-General Requirements, Article 1. |
| | <ul style="list-style-type: none"> (a) witness NDE being performed. (b) Verify that all examinations required by the referencing code had been performed. (c) Verify that procedures previously demonstrated and accepted by an ABSA inspector had been used. (d) All of the above. | | |
| 10 | ASME Section IX relates to the: | (c) | ASME IX-Introduction |
| | <ul style="list-style-type: none"> (a) Qualifications of Welders, Welding Operators, Brazers and Brazing Operators. (b) Procedures employed in welding/brazing. All of the above. | | |

8. Material Allowed to be used for the Examination

1. Safety Codes Act
2. Pressure Equipment Safety Regulation (AR 49/2006)
3. Power Engineers Regulation (AR 85/2003)
4. Pressure Welders Regulation (AR169/2002)
5. Pressure Equipment Exemption Order (AR 56/2006)
6. Administrative Item Regulation (AR 16/2004)
7. Boilers Delegated Administration Regulation (AR 32/2002)
8. CSA – B51 Boiler, Pressure Vessel, and Pressure Piping Code
9. CSA – B52 Mechanical Refrigeration Code

ASME Boiler and Pressure Vessel Code (11 to 19)*

10. Section I – Rules for Construction of Power Boilers
11. Section II – Materials Part A, B, C and D
12. Section IV – Rules of Construction of Heating Boilers
13. Section V – Nondestructive Examination
14. Section VI – Recommended Rules for the Care and Operation of Heating Boilers
15. Section VII – Recommended Guidelines for the Care of Power Boilers
16. Section VIII – Rules for Construction of Pressure Vessels Division 1, 2 and 3
17. Section IX – Welding and Brazing Qualifications
18. Section X – Fiber-Reinforced Plastic Pressure Vessels

19. ASME B31.1 – Pressure Piping
20. ASME B31.3 – Process Piping
21. ASME B31.5 – Refrigeration Piping
22. ASME B31.9 – Building Services Piping
23. ASME CSD-1 – Control and Safety Devices for Automatically Fired Boilers
24. NB-23 – National Board Inspection Code
25. NFPA 58 – Storage and Handling Of Liquefied Petroleum Gases
26. ANSI K61.1 – Safety Requirements for the Storage and Handling of Anhydrous Ammonia
27. MSS Standard Practice SP-25 – Standard Marking System for Valves, Fittings, Flanges and Unions

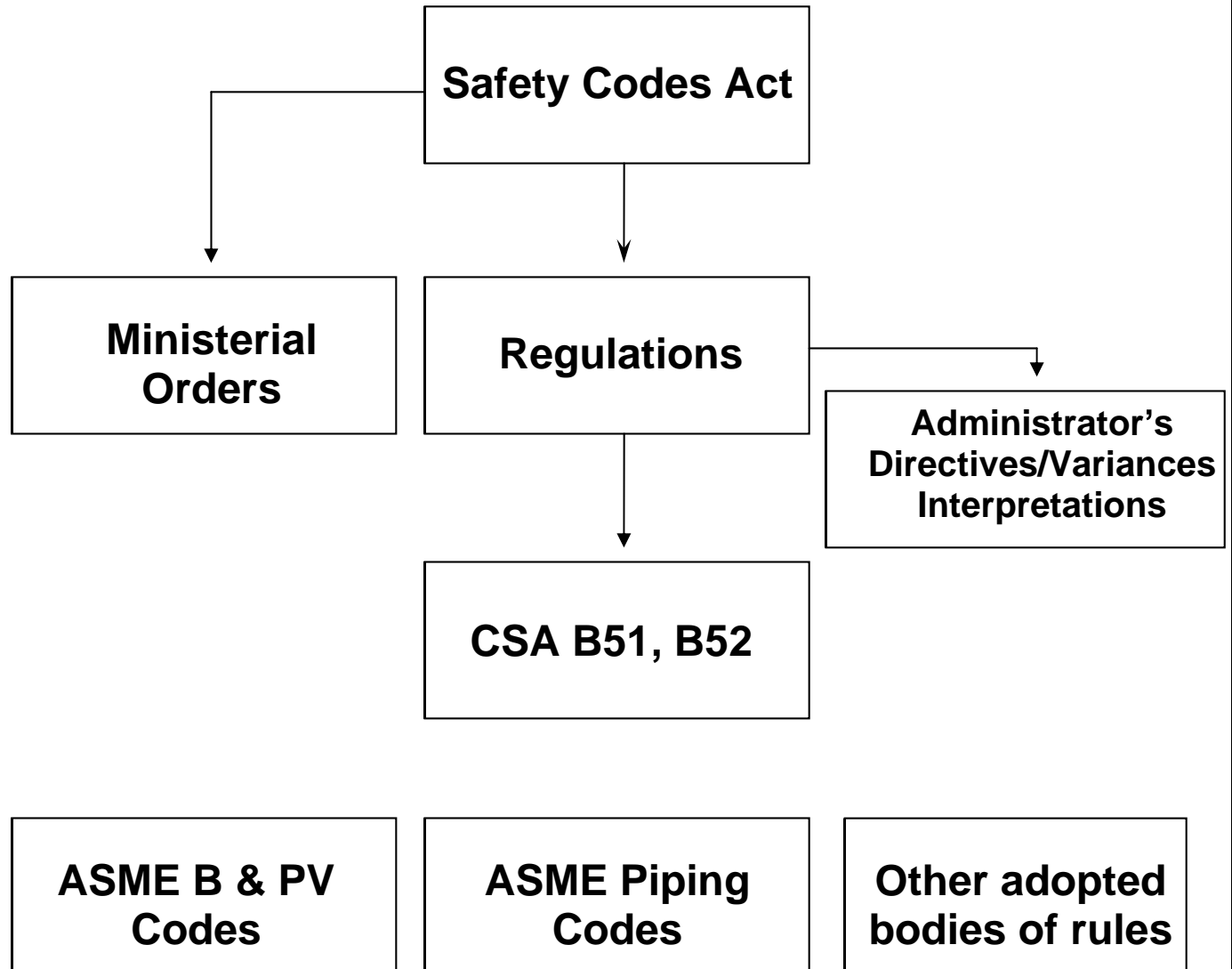
* Only Foreword, Preamble, Introduction and Scope sections of ASME Boiler and Pressure Vessel Codes are covered in the examination.

Note: Reference materials used during the examination are to be authorized "hard copy" paper versions as published.

9. Attachments:

Attachment 1:

Hierarchy of Act and Regulations



Attachment 2: Quality Systems Certification Program

ALBERTA'S QUALITY SYSTEMS CERTIFICATION PROGRAM (QSCP)

Overview

The Alberta Safety Codes Act & Regulations were developed to provide protection to life and property in Alberta.

ABSA has been delegated by the Government of Alberta to administer the Safety Codes Act and Regulations as it applies to pressure equipment.

The Safety Codes Regulations requires that organizations who construct, service, repair/alter the pressure equipment, provide a written description of the quality program for registration.

These Regulations are intended to provide assurance that Safety Codes Act & Regulations and applicable Codes and Standards are met. Extracts from some relevant sections of the Safety Codes Act & Regulations are detailed at the end of this section.

Quality program requirements, that are included in the CSA B51 Code, were based upon the model that had been developed by the Alberta Boilers Branch (now ABSA).

History

The American Society of Mechanical Engineers added a mandatory Quality Control appendix in the 1974 edition of the ASME Codes.

In 1975 the Alberta Design and Construction Regulations were amended to require any person constructing a boiler, pressure vessel, piping system or fitting in Alberta to provide a satisfactory quality system for registration (introduced in view of the significant number of items that were found to have major construction deficiencies). Other activities were added in later editions of the Regulations.

Legislation Requirements

The requirement for a quality management system (QMS) is established in the Safety Codes Act section 39. Acceptance of a QMS is signified by a certificate of authorization permit issued by the Administrator. Permit requirements are established in the Safety Codes Act in sections 43, 44 and 46.

Activities that require a quality management system are defined in the Pressure Equipment Safety Regulations (PESR) section 11 and in the Pressure Welders

Regulation section 21. The Administrator may also, by written order, require a quality management system.

See also the PESR User Guide sections 11, 12, and 13.

Registered Quality Program Categories

AQP 1000 Series - Pressure Vessel and Boiler Manufacturers
Note: AQP(S) indicates ASME Code Stamp holder

AQP 2000 Series - Pressure Piping Construction

AQP 3000 Series - Repair/Alteration of Pressure Equipment

AQP 5000 Series - Construction of Fittings

AOQP 7000 Series - Welders Performance Qualification testing

AQP 8000 Series – Owner/User Pressure Equipment Quality Management Program

ASVS – Service and/or Setting of Pressure Relief Valves

Separate Certificate of Authorization Permits are issued for AQP 1000, AOQP, ASVS and 8000 series. Other activities may be combined

A list of Certificate of Authorization Permit holders, whose certification is current with ABSA, may be obtained from ABSA's web site <http://www.absa.ca>. To view the list, access 'Quality Systems Program' and 'Directory of QMS Certificate of Authorization holders'.

QMS Sample Manuals and Guides

ABSA has developed QMS Sample Manuals and Guides for most of the QMS categories to assist organizations in developing their QMS manual.

The QMS Sample Manual show a typical system. Owner's QMS Manual:

- must be tailored to suit organization structure and needs.
- may be written in any suitable format.
- must accurately describe each applicable required element listed in ABSA's Guides/Sample Manuals in organization's QMS Manual or in the referenced controlled procedures.

ABSA sample manuals are updated periodically to accommodate:

- changes in the Regulations and the applicable adopted Codes and Standards.
- feedback from users.
- feedback from staff to improve the effectiveness.

Certification Process

1. An initial meeting is held with client to discuss certification process, requirements of the Safety Codes Act and Regulations, Alberta's Quality System Certification Program requirements (include Fees, periodic audits by ABSA and owner's responsibilities) and preparation of the QMS manual.

Some key steps in developing and implementing a quality system are:

- **Involve key personnel** who are responsible for the applicable activities and determine the existing systems that are in use.
- **Develop written descriptions** for each element, incorporating existing processes and ABSA's guidelines and requirements.
- **Train** all persons who will be performing QMS activities and ensure that senior management is included in this training.
- **Implement** the written description.
- Carry out periodic **Internal Audit** of the system and ensure continuous improvement of the program.
- Carry out periodic **Management Review** of the program to assure effectiveness.

At the conclusion of the meeting the client is provided with an Application Form and a file is set up for the client.

2. Submit Application Form (AB 29) along with deposit (deposit is required for new applicant's only) and a draft copy of the QMS manual.
3. QMS Manual Review:
 - A QMS Manual review is conducted by an ABSA auditor.
 - Any deficiencies or items that needed to be clarified are documented.
 - Changes are discussed and confirmed with the applicant.
 - Applicant revises the draft manual and resubmit to ABSA for review. If no further changes are identified, the applicant is notified that the manual has been reviewed and accepted as the basis for an implementation review.
 - The final acceptance of the manual is given after a site implementation review has been conducted.
4. QMS Implementation Review

Once the manual has been accepted as the basis for an implementation review, the organization confirms a suitable date for the implementation review and a qualified ABSA Auditor (Safety Codes Officer) is assigned to conduct the review.

All elements described in the manual must be demonstrated at the organization's facilities, either on an actual project or a demonstration project.

The degree and scope required for the implementation review is relayed to the applicant prior to the audit.

Date of Implementation review:

- On the date of the review, an opening meeting is held with the key company personnel to confirm the scope and process of the audit. Presence of executive manager or owner is expected at the opening meeting to confirm support for the program.
- The actual systems that are in use are then evaluated against the QMS manual using an audit checklist when applicable. Any deficiencies identified are confirmed with the organization's representative.
- At the conclusion of the review, a closing meeting is held with the company to discuss the results of the audit and agree upon the follow-up action.
- ABSA staff meets to review their findings and prepare an audit report and Corrective Action Request reports (CARs) when applicable.
- A copy of the audit report and any CARs may be provided to the client at the conclusion of the audit or submitted later.

Any action required may be verified through submission of corrective action requests or a further audit may be needed.

To complete the certification process, two controlled copies of the revised QMS manual (one if Company is located in Edmonton) must be issued to ABSA. Organizations who have successfully demonstrated the implementation of the QMS are issued a Certificate of Authorization Permit for three years.

If it is determined that the Certificate holder is not complying with the Act and Regulations, the Administrator may withdraw the Certificate of Authorization Permit.

Application of CSA B51 Boiler, Pressure Vessel and Piping Code

Each Canadian Province has adopted this Code as a Regulation.

CSA B51 (4.9.1.1) states that the manufacturer of a boiler, pressure vessel, piping, fired-heater pressure coil, or fitting shall demonstrate to the regulatory authority that a satisfactory quality control system is in operation.

The CSA B51 Code sets the minimum requirements that must be followed by the owners for each type of quality system. This permits a province to accept the quality standards for product constructed in another province without further review.

It should be noted that Alberta, and some other provinces, have established supplementary requirements in addition to those contained in CSA B 51

International Standard ISO Quality Systems (ISO 9001, 9002, 9003)

ISO provides a model for Quality Assurance Standards.

Although the standards are not adopted as a regulation in Alberta, they are referenced as a recommended guide in CSA B51, and some ABSA guides are based on ISO format.

ISO Standards are generic, so the controls for the specific Code and Regulations must also be addressed.

Most Alberta Fitting Manufacturers have ISO programs, which are registered with a Canadian based registration Agency.

The ASME and National Board are also ISO Registrars.

Specific Requirements

1. Manufacturers of Boilers and Pressure Vessels and ASME Code stamp shops:

Organizations, who manufacture boilers and pressure vessels in Alberta, must have a valid Alberta Certification of Authorization Permit for the scope of work.

ASME Code symbol stamp is not required in Alberta, but the standards applied must meet or exceed those required for ASME Code Stamp holders.

Additional requirements that must be followed when an organization applies for an ASME Certificate of Authorization, include:

- The QMS Manuals must be amended to address the controls needed for ASME Code stamped items.
- An ASME joint review is conducted at the organization's facilities. The review team is comprised of an ASME representative, ABSA's Authorized Inspector supervisor and the Authorized Inspector.
- Upon completion of the review, a report is sent to the ASME Accreditation Committee who then decides if a Certificate of Authorization and Code symbol Stamp will be issued.

2. Servicing and/or Setting of Pressure Relief Valves:

In Alberta, authorization to Repair, Service or Set Pressure Relief Valves must be obtained from ABSA prior to carrying out those activities. The Pressure Equipment Safety Regulation Section 11 states that no person shall service, repair, set or seal pressure relief valves without authorization from the Administrator.

The National Board 'VR' accreditation is not mandatory in Alberta. For 'VR' accredited organizations, a National Board representative and an ABSA safety codes officer conduct a joint site audit at the organization's facilities.

Although there are some additional requirements that apply for 'VR' accreditation, most of Alberta requirements are consistent with those established in the National Board Inspection Code (NB 23) for VR certification.

Owner-User (O-U) Pressure Equipment Integrity Management Program

An Owner-User Program is an Owner's Quality Management System for assuring the safety and reliability of their pressure equipment.

The scope of the program comprises boilers, process heaters, pressure vessels and pressure piping systems that contain an expansible fluid exceeding 103 kPa.

A typical format of an Owner User Quality System Manual may be:

- (i) Title Page
- (ii) Scope
- (iii) Statement of Authority
- (iv) Table of Contents
- (v) Revision Summary
- (vi) Definitions
- (vii) Responsibilities and Qualifications
- (viii) Organization Chart
- (ix) Document and Data Control
- (x) Contract Review
- (xi) Purchasing
- (xii) Measuring and Test Equipment
- (xiii) Pressure Equipment Inspection
- (xiv) Pressure Equipment Inspection Interval
- (xv) Repairs and Alterations
- (xvi) Pressure Equipment Engineering and Installation
- (xvii) Special Process Control
- (xviii) Pressure Relief Device Monitoring
- (xix) Internal Audits
- (xx) ABSA Safety Codes Officer
- (xxi) Nonconformities
- (xxii) Corrective and Preventative Actions

The owner's QMS manual, describing the system, should provide an outline of each element and reference all applicable procedures or, for a modest-sized organization, the manual may combine procedures with documents. In all cases, responsibility for each identified element should be assigned. The QMS should be designed so that verifiable evidence is available to confirm the system's conformance to the requirements.

Owner's Responsibilities

ABSA audits are intended to ensure that the minimum requirements of the Safety Codes Act & Regulations and applicable Codes and Standards are met.

However, an item may meet all these requirements but safety and reliable service may still not be achieved unless the owner ensures that all additional service requirements are addressed in appropriate specifications and that these are incorporated in the fabricator's Quality System requirements. Some of the additional elements are [in addition to ASME Code(s) requirements]:

- Provincial Requirements
- Design and Operating Conditions
- Process Conditions
- Corrosion Allowance
- Additional Material Requirements to account for Stress Corrosion Cracking, H₂S, NACE Specifications, etc.
- Specify Heat Treatment and NDE requirements.
- Coating Specifications.
- Maintenance and Inspection Consideration.
- Cyclic Service, Special Fabrication Requirements.

The owner must ensure that all jurisdictional requirements are met.

Before placing an order with a vendor (for pressure equipment constructed and installed in Alberta), verify that:

- The vendor has a current Alberta Quality Program for the scope of work (verify through ABSA's web site <http://www.absa.ca/>. To view the list, access 'Quality Systems Program' and 'Directory of QMS Certificate of Authorization holders'.)
- The Design is registered with ABSA.
- Vendor has capabilities to build the item to Code and meet company specifications.

Role of top management

Through commitment and leadership, top management can create an environment in which the people are involved in the quality process, are committed to, and understand the importance of, the QMS and are trained to achieve conformance to the requirements of the QMS. Some of the elements that may be used by top management to accomplish conformance to the quality objectives are:

- (i) Establishing a quality policy and quality objectives of the organization.

- (ii) Establishing a written description of the quality system that is focused at meeting the overall requirements of the company, users, jurisdiction and Codes and Standards.
- (iii) Periodic management review to systematically evaluate the system for suitability, adequacy, effectiveness, and efficiency with respect to the quality policy and objectives, internal audits, feedback from users and action to correct the deficiencies will assure continued effectiveness of the system.
- (iv) Assuring focus by all personnel in meeting the requirements of the QMS.
- (v) Verification that the product or activity meets the purpose.
- (vi) Assuring the availability of resources.

Initiatives to improve ABSA Quality System Certificate Programs

To address inconsistencies that were found in the Quality System Certification Program in the past, and to improve the effectiveness, ABSA implemented a number of improvement initiatives. The initiatives included:

Internal:

- assuring that all ABSA Auditors have the required skills to review specific type of quality system through additional training and certification (All auditors currently must have passed a 36-hour ISO lead auditor's course, taken QMS Awareness training and obtained a NB commission and Endorsement 'A' and auditing experience).
- Development of procedures for all ABSA quality system activities and training of auditors to consistently apply the procedures throughout the province.
- Installation of an electronic tracking system to keep records of QSCP activities and certifications. The system also displays a current directory of QMS Certificate of Authorization holders on internet. The directory is updated every night.
- Development of specialized training program for auditors for each QSCP category (in progress).
- Establishment of an administrative system to manage the QSCP certification activities efficiently. The structure include appointment of a QSCP Coordinator, QSCP Representatives for each QMS category and Auditors.

External:

- Establish a periodic auditing program for auditing QMS Certificate of Authorization holders.
- Plans to develop and deliver QMS Awareness and specialized training programs (e.g., the training programs will include Codes, Standards and ABSA's Requirements training for PRVs Servicing and Setting, ASME B31.3 and B31.1 Piping systems fabrication, Fabrication and repair of Fittings, Repair of Pressure Equipment, Owner/User Pressure Equipment Integrity Management program etc.).

The training will be limited to understanding and application of Codes, Standards and Regulations for the purpose of meeting the requirements. The training will be imparted by ABSA staff currently engaged in delivering the inspection, design review, examination and certification and shop inspection services. Recently a number of ABSA staff received the 'Train the Trainer' training in preparation for delivering the training to internal and external users.

Attachment 3: Safety Codes Act and Regulations Extracts

SAFETY CODES ACT AND REGULATIONS EXTRACTS

SAFETY CODES ACT

PART 1 – RESPONSIBILITIES:

- 5 The owner of any thing, process or activity to which this Act applies shall ensure that it meets the requirements of this Act, that the thing is maintained as required by the regulations and that when the process or activity is undertaken it is done in a safe manner.
- 6 A person who creates, alters, has care and control of or owns a design or offers a design for use by others shall ensure that the design complies with this Act and that it is submitted for review or registered if required by this Act, and if the design is deregistered, the person shall provide notice of its deregistration in accordance with the regulations.
- 7 A person who manufactures any thing or undertakes a process or activity to which this Act applies shall ensure that the thing, the process or the activity complies with this Act.
- 8 A contractor who undertakes construction, operation or maintenance of or builds or installs any thing to which this Act applies shall ensure that this Act is complied with.
- 9(1) A person who is a vendor in the ordinary course of business, other than as an employee or an agent, shall not advertise, display or offer for sale, for lease or for other disposal, or sell, lease or otherwise dispose of, any thing to which this Act applies unless that thing complies with this Act.

PART 3 – STANDARDS:

- 39(1) An owner, occupier, vendor, contractor, manufacturer or designer of a thing, or a person who authorizes, undertakes or supervises a process or activity, to which this Act applies may be required by a written order of an Administrator or by this Act to have and maintain a quality management system that meets the requirements of the regulations.

- (2) No person shall make a change to a quality management system without first notifying an Administrator of the change if it is a type of change of which an Administrator requires notification.

Pressure Equipment Safety Regulation (PESR) (AR 49/2006)

Refer to the [Pressure Equipment Safety Regulation User Guide](http://www.absa.ca/) which is available at <http://www.absa.ca/>.

Attachment 4: Pressure Piping

Forms and Certification requirements for Boiler External Piping, Non-Boiler External Piping per B31.1 and Process Piping per B31.3 as referenced in the Alberta Design Construction and Installation of Boilers and Pressure Vessels Regulations, ABSA Forms AB-81, AB-83 and AB-96.

Forms - General Description

AB-96 [GENERAL ENGINEERING REQUIREMENTS FOR DESIGN & CONSTRUCTION OF PRESSURE PIPING SYSTEMS](#)

If the pressure piping system has an aggregate internal volume exceeding 500 litres, the system design must be registered. The AB-96 form is used to make sure the items specified in the regulations have been addressed in the submission. The document is to be signed-off by owner of the design or by the person who will manufacture the piping system.

Reference - AR 49/2006 (PESR) section 14 & 16
- PESR User Guide

AB-81 [COMPLETION OF CONSTRUCTION](#)

This document is used when construction of a pressure piping system built to a REGISTERED DESIGN is complete. The purpose of the AB-81 is to provide written confirmation the complete system conforms to the registered design. The completed document is signed by the person responsible, in whole or in part, for the construction of a pressure piping system built to a REGISTERED DESIGN.

Reference - AR 49/2006 (PESR) section 32
- PESR User Guide

AB-83 [Construction Data Report for Piping Systems](#)

Used to document the construction and testing of ALL pressure piping systems. The purpose of the AB-83 is to certify the completed construction conforms to the design, has been fabricated by an authorized fabricator and has been inspected during construction. The contractor provides copies of the completed document to the owner. The owner must retain the copies for at least five years. The contractor must retain the copies in accordance with their written quality system.

Reference - AR 49/2006 (PESR) section 31
- PESR User Guide

Certification - General Requirements

Registration of Design

- Design must be registered - AR 49/2006 (PESR) section 14
- Small pressure piping systems (less than 500 litres in volume) are exempt from registration of design - AR 49/2006 (PESR) section 14(6)(a)
- Designs for registration must be stamped by a Professional Engineer - AR 49/2006 (PESR) section 16(2)

Fabrication

- All fabrication must be under a registered quality control program - AR 49/2006 (PESR) section 11
- Welding, brazing and other joining procedures used in the fabrication of a pressure piping system must be registered - AR 49/2006 section 27
- All pressure piping fabrication must be documented - AR 49/2006 (PESR) section 31

Inspection

Inspection by Owner's Inspector

- Both B31.1 and B31.3 make the owner responsible to assign an inspector to inspect pressure piping during fabrication

Reference

B31.1, paragraph 136.1
B31.3, paragraph 340.2

Inspection by ABSA SCO/ Authorized Inspector

B31.1 mandates inspection of Boiler External Piping by an Authorized Inspector during fabrication.

Reference

B31.1, paragraph 136.3

B31.3 Process Piping

- Inspection by ABSA SCO/ Authorized Inspector is not mandatory in Alberta.
- Some Canadian provinces apply CSA B51, clause 5.2.1(a) that mandates shop inspection of pressure piping by "an inspector employed by a provincial boiler and pressure vessel inspection jurisdiction".
- For pressure piping fabricated in Alberta for use outside Alberta, the local authority having jurisdiction should be consulted to determine the requirement for inspection by an Authorized Inspector.
- When requested, ABSA SCO/ Authorized Inspectors do conduct fabrication inspections of pressure piping fabricated to B31.3 at Alberta shops when the piping is being fabricated for installation outside Alberta.

Requirements for specific types of pressure piping systems

ASME B31.1 Power Piping Code

Two categories of piping:

- Boiler External Piping and Non-Boiler External Piping
Each category is described below.

Refer to ASME B31.1 fig. 100.1.2 and ASME Section I Fig. PG-58.3.

Boiler External Piping (BEP)

- ASME Section I applies with respect to stamping, data reports and authorized inspection. ASME B31.1 BEP subcommittee has technical responsibility.

Definition

Reference ASME B31.1, paragraph 100.1.2

“Boiler External piping shall be considered as that piping which begins where the boiler proper terminates at:

- 1. the first circumferential joint for welding end connections; or*
- 2. the face of the first flange in bolted flange connections; or*
- 3. the first threaded joint in that type of connection;*
and which extends up to and including the valve or valves required by para. 122.1”

Examples: main steam line piping located between the boiler drum and the first valve; piping located between the mud drum and the blow-off valve.

Design registration

The design must be registered if the aggregate internal volume is greater than 500 litres.

Inspection

- All BEP is inspected by the ABSA SCO/ Authorized Inspector during fabrication. This responsibility may not be delegated to the Owner's inspector.
- Inspection by the owner's inspector is mandated in B31.1.

Documentation

- Form AB-83 is used to document all BEP.
- The completed Form AB-83 must be signed-off by the ABSA SCO/ Authorized Inspector for all Boiler External Piping.
- The AB-81 is completed if fabrication is to a registered design.

Non-Boiler External Piping

- ASME B31.1 has administrative jurisdiction and technical responsibility.
- Non-boiler external piping is fabricated to ASME B31.1.
- Piping in the system beyond the valve or valves required by ASME B31.1, paragraph 122.1 is Non-Boiler External Piping.
- Non-boiler external piping can also be constructed to ASME B31.3

Example: steam distribution piping

Design Registration

The design registered if volume is greater than 0.5 m³.

Inspection

- Inspection by ABSA SCO/ Authorized Inspector not mandatory in Alberta.
- Inspection by the owner's inspector is mandated in B31.1.

Documentation

- Form AB-83 is used to document all Non-Boiler external piping and must be certified by the owner's inspector.
- Form AB-81 is also used if fabrication is to a registered design.

ASME B31.3 Process Piping Code

Design Registration

- The design registered if volume is greater than 500 litres.

Inspection

- In general, inspection of B31.3 piping by ABSA SCO/ Authorized Inspector is not mandatory in Alberta.
- Inspection by the owner's inspector is mandated in B31.3.

Documentation

- Form AB-83 is used to document all pressure piping and must be certified by the owner's inspector.
- Form AB-81 is also used if fabrication is to a registered design.

Notes

1. Indirect Fired Heater Coils

Indirect fired heater coils may be designed to ASME B31.3. All heater coils require ABSA SCO (AI) inspection in Alberta. In this case the heater coils, though designed to a pressure piping code, are not considered to be a pressure piping system. The rules for design registration, inspection and documentation are applied similar to the rules for pressure vessels. Construction is documented on Form AB–[28 Manufacturer's Data Report for Indirect Fired Heater Coils](#). The fabricators registered quality system must specifically address fabrication of Indirect Fired Heater Coils.

2. Boiler Proper Piping

- Some boiler parts may be made of pipe materials, but are deemed to be part of the boiler proper. Reference ASME B31.1 fig. 100.1.2 and ASME Section I Fig. PG-58.3.
- ASME Section I has administrative jurisdiction and technical responsibility for the boiler proper.
- This means boiler proper piping must be fabricated and inspected fully under the rules of ASME Section I.

Attachment 5: Repairs and Alterations

- a. The ABSA Safety Codes Officer's duties with respect to repairs and alterations.
- b. Use and application of ABSA form AB-40.
- c. Requirements for re-rating Pressure Equipment in Alberta.
- d. Owner's and Repair/Alteration Organization's responsibilities under the Safety Codes Act and Regulations for repairs and alterations to pressure equipment.
- e. Application of Owner-User Program for repairs and Alterations.
- f. Requirements for missing nameplates

General

- A repair is work carried out to restore a damaged item to a condition that satisfies the original design.
- An alteration is a change to the item so that it no longer satisfies the original design.
- In order to ensure that repaired or altered equipment is safe to operate, a system of procedure review, inspection and documentation is mandated by the legislation. The system serves to ensure that repairs and alterations are carried out in a manner that is consistent with new construction in-so-far as possible.

Reference - AR 49/2006 (PESR) section 40
- PESR User Guide

Definitions

Definitions recognized by ABSA.

ALTERATION

Includes any change in the item, described on the original Manufacturer's Data Report, that affects the pressure-containing capability of the pressure retaining item. Non-physical changes such as a change in the maximum allowable working pressure (internal or external) or design temperature of a pressure retaining item is an alteration. A reduction in minimum design metal temperature is also an alteration.

REPAIR

A "repair" is work carried out to restore a damaged item to a condition that satisfies the original design. The addition of isolated nozzles identical to those already on the shell or heads of the vessels is also considered a repair, not an alteration.

ROUTINE REPAIR

1. Welded repair or replacement of an isolated section of tube or pipe not over NPS 5 (5.563 inches in outside diameter), and their attachments.
2. The addition or repair of non-load-bearing attachments to pressure-retaining parts where post-weld heat treatment is not required.
3. Weld build-up of wasted areas in shells and heads not exceeding 100 sq. inches in area and the lesser of 25% of nominal wall thickness or 1/2 inch. in thickness.
4. Corrosion resistant weld overlay not exceeding 100 sq. inches.
5. Welded repairs to treater firetube welds when the repair does not involve replacement of any base metal.

Procedure Review and Registration

- For all alterations, specifications, drawings, calculations and procedures are submitted to ABSA Design Survey for review and registration
- Procedures for certain repairs are submitted for review and acceptance. The general nature of repairs for which procedures must be submitted for review are described below.

Inspection

- Inspections are carried out by the owner's inspector and/or by the ABSA SCO

Inspection Certificate

- A certificate of inspection permit may be issued for re-rated pressure equipment. However, ABSA policy is to ensure a complete service inspection has been completed before issuing a certificate of inspection permit for repaired or altered pressure equipment that has been in service. For pressure equipment that has been altered, the sign-off of the inspection section of the AB-40 document by the ABSA SCO provides inspection certification for the alteration.

For additional Information refer to:

[Boiler and Pressure Vessel Repair and Alteration Matrix \(AB-504\)](#)

a. The ABSA Safety Codes Officer's duties with respect to repairs and alterations.

- In general, the regulations require that an ABSA SCO accept all repairs or alterations. Acceptance of the repair or alteration is based on a review of the repair or alteration procedure prior to work taking place. Inspections are made to verify that work conforms to the procedure.
- All alteration procedures and most repair procedures are submitted to Design Survey for review and acceptance. Some specific repair procedures can be reviewed and accepted by the local SCO.

Examples

Repair procedures that may be accepted by the ABSA SCO and which are generally not required to be submitted to Design Survey for acceptance include:

- Repair procedures in accordance with the original design criteria (incl. PWHT) such as replacement of existing shell courses, heads or nozzles.
 - Installation or replacement in kind of nozzles identical to existing nozzles, located not less than 2.5 times the sum of their corroded inside diameters from an existing nozzle and for which reinforcement calculations are not a consideration.
 - Weld overlay to build up wasted areas using filler metal comparable to the P number of the base material.
 - Replacement of isolated tubes by welding in a boiler or heat exchanger.
 - Addition of non-pressure parts attached by welding to non-stress-relieved pressure parts.
 - Replacement or repair of any pressure piping other than Boiler External Piping (ASME Section I).
 - Replacement of any number of tubes in a boiler or heat exchanger by rolling.
 - Restoration of corrosion resistant weld overlay above the base metal surface.
 - Replacement of slip-on flanges with weld neck flanges or visa-versa, where NDE or PWHT of the welded joint is not a requirement of the applicable ASME Code (ref UW-2, UCS-68).
- Inspections are performed by the SCO. However, companies with ABSA certified Integrity Management Programs (Owner-User Program) may be authorized to perform inspections of specific repairs. The scope of authorization and qualifications of inspectors under the program will be stated in the quality system manual.

- The Pressure Equipment Safety Regulations requires that anyone constructing, modifying or repairing pressure equipment must have a quality management system program registered with ABSA.
- The Regulations also require that the owner of pressure equipment must inform an ABSA SCO prior to the commencement of any repairs or alterations to pressure equipment.

All Alterations and All Repairs and Alterations at Shop Facilities:

- An ABSA SCO is to be notified prior to the start of work to accept repair methods and designate any inspection hold points. An ABSA SCO is required to inspect the repair/alteration and certify the repair/alteration report. The repair organization shall complete a repair/alteration report for all repairs and alterations and provide the report to ABSA.

Repairs at Sites when the Owner Does Not Have an ABSA Owner-User Certificate

- An ABSA SCO is to be notified prior to the start of work to accept repair methods and designate any hold and inspection points. ABSA SCO is required to inspect the repair, and certify the repair/alteration report. The repair organization shall complete a repair/alteration report for all repairs.

b. Use and Application of ABSA form AB-40

AB-40 Boilers and Pressure Vessels Repair/Alteration Report

- Used to document all repairs and all alterations to boilers and pressure vessels.
- The purpose of the AB-40 is to provide documentation that the work was carried out by an authorized firm in accordance with a repair procedure.
- The AB-40 also provides certification of inspection of the repair. The contractor provides copies of the completed AB-40 to the owner and to the ABSA SCO.
- The owner must retain the AB-40 with the permanent records of the items.
- The contractor must retain the copies in accordance with their written quality system.

When to use, who to sign etc.

- The AB-40 form is to be used to document all repairs or alterations to boilers and pressure vessels.

- The completed form is signed-off by a representative of the firm responsible for the repair AND by the inspector (ABSA Safety Codes Officer or qualified Owner's Inspector) responsible for the Code Inspection.

c. Requirements for re-rating Pressure Equipment in Alberta.

GENERAL

Re-rating is an alteration that requires no physical change to the vessel.

Any organization wishing to re-rate a pressure vessel by increasing or decreasing the maximum allowable working pressure (internal or external) or by increasing the design temperature or by decreasing the minimum design metal temperature must make a submission to design survey for review and approval.

DOCUMENTATION

The documentation requirements for alterations as explained in the section about Repairs and Alterations apply.

Use forms:

AB-96 to submit the procedure for review.

AB-40 to document completion of the re-rating. The completed AB-40 must be submitted to ABSA and a copy retained by the owner.

PROCEDURE

An ABSA Safety Codes Officer with design survey responsibilities will review the submission to re-rate a pressure vessel and verify the new service conditions by calculation. A copy of the re-rate approval documentation, with the stamp of acceptance, will be forwarded to the area inspector.

The pressure vessel must be pressure tested to the new service condition if the maximum allowable working pressure is increased, or if the maximum allowable working pressure is decreased because of service induced deterioration. The pressure test is calculated on the same basis used for the pressure test required for initial construction.

A new alteration nameplate shall be installed adjacent to the original manufacturer's nameplate. The new nameplate must contain the following markings: re-rated by, MAWP, temperature and date altered. The ABSA Safety Codes Officer must check the installation of the alteration nameplate.

d. Owner's and Repair/Alteration Organization's responsibilities under the Safety Codes Act and Regulations for repairs and alterations to pressure equipment.

Quality Control

- Repairs and alterations to pressure equipment may only be completed under, and in accordance with, a quality system that has been reviewed and registered by ABSA.
- The scope of the quality program must specifically state repairs will be conducted under the program.

Reference - AR 49/2006 (PESR) section 11
- PESR User Guide

e. Application of Owner-User Program for Repairs/Alterations

- For repairs, Code inspection requirements (whether an ABSA SCO or an Inspector designated by the Owner-User Program performs the Code required inspections) shall be established when the work order or contract is initiated. The scope of owner inspection of repairs is defined in the owner-user quality manual. Also, an owner may elect not to be responsible for the inspection of any repairs.
 - Code inspections shall be documented on the repair organization's travel sheet and a certified repair/alteration report shall be furnished for all repairs as specified in their quality manual. The repair/alteration report shall also be certified by the Code Inspector.

Note: The ABSA SCO is responsible to inspect all alterations.

f. Requirements for Missing Nameplates.

Replacement of Nameplates on Vessels and Boilers

From The Pressure News, Volume 6, Issue 1, March 2001

There are many circumstances where a nameplate must be replaced after a vessel or boiler has been in service for some time. It may have been torn off during movement. Chemicals, corrosion or physical damage may have made it illegible. Whatever the reason, there are some requirements you must follow in Alberta when the nameplate is attached.

Generally, the requirements are as stated in NB-23 under section RB-4000.

- The replacement nameplate can only be installed if the vessel is traceable to the original construction or Manufacturer's Data Report. Typically, the vessel has a manufacturer's serial number stamped on the shell. This, along with the Manufacturer's Data Report, will provide the information required. If the serial number is not visible, some other method must be used to establish traceability.
- The nameplate must be attached in the presence of an Authorized Inspector of the province.

During new construction, the Authorized Inspector may not witness the nameplate installation if the manufacturer demonstrates sufficient control to ensure it is attached to the correct vessel. This is usually done by stamping a unique serial number on the vessel and matching it to the nameplate when it is attached. However, this exception does not apply when a vessel is shipped off site without the nameplate. This case would be considered the same as the missing or illegible nameplate as discussed above. There have been incidents where the wrong nameplate has been attached to a vessel. It is easy to see that the results of such a mistake could be disastrous. For this reason, the requirements for traceability and the presence of an Authorized Inspector must always be maintained.

Attachment 6: Change Of Ownership And Other Status Changes

- a. Requirements for change of ownership and scrapping a vessel.
- b. Use of AB-10 Form

Requirements

The Regulations specify the requirements for a person selling or scrapping a pressure vessel. ABSA created a form (AB-10) to facilitate compliance with the regulatory requirements.

Reference – AR 49/2006 (PESR) section 36
– PESR User Guide

Change of Ownership or Location. For all pressure equipment that requires a certificate of inspection permit, it is the owner's responsibility to provide current information about changes in ownership or location so that ABSA can maintain accurate and up-to-date records. This notification must be provided for all pressure equipment that is identified with an A-number.

ABSA form [AB-10](#) can be used to report a change in ownership or location. ABSA forms are available at www.absa.ca or by contacting an ABSA office. The information required to identify equipment, as listed on form AB-10, includes:

- A-number
- serial number
- Canadian Registration Number (CRN)

If the vessel was sold:

- name and address of new owner
- location of vessel
- contact person and telephone number, date of sale, P.O. number

If the vessel was removed from service:

- date vessel was removed from service
- date vessel was destroyed and disposed of as scrap, and A number was obliterated
- location to which the vessel was relocated
- date the vessel has been operating outside of the Province of Alberta
- date vessel was returned to service.

Note that the AB-10 form must be signed off by the owner's representative.

This information forms part of the records that ABSA is required to maintain on behalf of the Government. By maintaining such records, ABSA is able to provide current, accurate information to the Government and to owners. The records enable ABSA to confirm that the required inspections have been done, to ensure safe operation of the pressure equipment and compliance with the regulations.

Buying or Selling Pressure Equipment. When equipment is sold for pressure service, it is important to ensure that equipment records are provided to the new owner. This chain of control is critical to pressure equipment safety.

Equipment records that should be transferred include:

- design specifications
- integrity assessment records
- maintenance, servicing, test records
- repair or alteration records
- certificate of inspection or certificate of inspection permit.

Buyers of pressure equipment should be aware that, upon purchase, they assume responsibility (and liability) for ensuring that all requirements of the Safety Codes Act are met, and that the pressure equipment is maintained and operated in compliance with the Act and Regulations. This includes ensuring proper maintenance and servicing, and ensuring that integrity assessment is completed to ensure that the equipment is safe for continued operation. See also section 37 regarding responsibility of owners.

Decommissioning Pressure Equipment. Owners who provide information to ABSA indicating that equipment has been destroyed or scrapped should protect themselves against liability by confirming that appropriate action has been taken to prevent further use of that equipment in pressure service. This should include removal of the code nameplate and obliteration of the A number to ensure nothing is left to indicate that the item is valid as pressure equipment. Some owners also choose to cut holes in destroyed or scrapped equipment.