

BC Safety Authority



Harmonized Requirements for Historical Boilers

**Edition 1, Revision 0
Issued 2017-08-30**

(AB-534)

Table of Contents

| | |
|--|------------|
| FOREWORD | iii |
| PART 1 - COMMON REQUIREMENTS | 1 |
| 1.0 INTRODUCTION | 1 |
| 2.0 DEFINITIONS AND ACRONYMS | 2 |
| 3.0 OWNER’S RESPONSIBILITIES | 3 |
| 3.1 General..... | 3 |
| 3.2 CSA B51-14..... | 3 |
| 3.3 NBIC 2015 Part 2 Supplement 2..... | 3 |
| 3.4 NBIC 2015 Part 3 Supplement 3..... | 3 |
| 4.0 DETAILS | 4 |
| 4.1 Design Registration..... | 4 |
| 4.2 Construction/Repairs..... | 4 |
| 4.3 Operation..... | 4 |
| 4.4 Maintenance..... | 5 |
| 4.5 Decommissioning..... | 6 |
| 5.0 ADDITIONAL INSPECTION REQUIREMENTS | 6 |
| 5.1 NDE Requirements..... | 6 |
| 6.0 INTER-PROVINCIAL MOBILITY OF HISTORICAL BOILERS | 7 |
| 6.1 Inspection..... | 7 |
| 6.2 Operator Certification..... | 7 |
| 6.3 Validation of Integrity..... | 8 |
| PART 2 - JURISDICTION-SPECIFIC SUPPLEMENTS | 9 |
| SUPPLEMENT 1 – ALBERTA | 9 |
| 1.0 INTRODUCTION | 9 |
| 2.0 DEFINITIONS AND ACRONYMS | 9 |
| 3.0 OWNER’S RESPONSIBILITY | 10 |
| 3.1 General..... | 10 |
| 3.2 Legislation, Adopted Codes..... | 10 |
| 4.0 REQUIREMENTS | 11 |
| 4.1 Design..... | 11 |
| 4.2 Operation..... | 11 |
| 4.3 Responsibilities of Owners..... | 11 |
| 4.4 Repairs..... | 11 |
| 4.5 Lap-seam Boilers..... | 12 |
| 4.6 Decommissioned..... | 12 |
| 4.7 Inter-Provincial Mobility of Historical Boilers..... | 12 |
| SUPPLEMENT 2 – MANITOBA | 13 |
| 1.0 INTRODUCTION | 13 |
| 2.0 DEFINITIONS AND ACRONYMS | 13 |
| 3.0 REQUIREMENTS | 13 |
| 3.1 Repairs..... | 13 |
| 3.2 Decommissioned..... | 13 |
| 3.3 Inter-Provincial Mobility of Historical Boilers..... | 14 |

| | |
|--|-----------|
| SUPPLEMENT 3 – BRITISH COLUMBIA | 15 |
| 1.0 INTRODUCTION..... | 15 |
| 2.0 DEFINITIONS AND ACRONYMS | 15 |
| 3.0 REQUIREMENTS | 16 |
| 3.1 Design..... | 16 |
| 3.2 Operation | 16 |
| 3.3 Responsibilities of Owners..... | 16 |
| 3.4 Repairs and Alteration | 16 |
| 3.5 Purchase or Disposal..... | 17 |
| 3.6 Inter-Provincial Mobility of Antique Show Boilers..... | 17 |
| SUPPLEMENT 4 – SASKATCHEWAN | 19 |
| 1.0 INTRODUCTION..... | 19 |
| 2.0 DEFINITIONS AND ACRONYMS | 19 |
| 3.0 REQUIREMENTS | 19 |
| 3.1 General Requirements..... | 19 |
| 3.2 Inter-Provincial Mobility of Historical Boilers | 19 |
| 7.0 REVISION LOG | 20 |

FOREWORD

This document has been issued to describe requirements for historical boilers. This document has been developed and endorsed by the following regulatory authorities: Alberta (ABSA), Manitoba (Office of the Fire Commissioner), Saskatchewan (TSASK), British Columbia (BCSA). This document provides harmonized rules for historical boilers as established by the participating regulatory authorities. The requirements specified herein provide compliance guidance to the legislation that is in effect in each jurisdiction, and the rules of the jurisdiction. However, the rules of the jurisdiction still take precedence over this document.

This document is published by ABSA on behalf of the regulatory authorities named above. This document is controlled in accordance with ABSA's document control procedure for AB-500 documents with the following modifications:

The Part 1 of this document contains common requirements approved by all participating organizations. Changes to Part 1 are made by consensus of the participating organizations and with input from affected stakeholders.

Part 2 of this document contains jurisdiction specific sections. Any changes thereto are approved by the respective regulatory authority.

PART 1 - COMMON REQUIREMENTS

1.0 INTRODUCTION

This edition of *Harmonized Requirements for Historical Boilers* has been issued to reflect industry recognized good engineering practices that address the requirements for historical boilers. This document provides information to assist users in ensuring the safe operation of their historical boiler and does not apply to steam locomotive boilers. This document, for the requirements of historical boilers, is based on applicable portions of CSA B51-14, and the National Board Inspection Code (NBIC 2015) Part 2 Supplement 2.

NBIC 2015 Part 3 Supplement 2 shall be used as good engineering practice in developing repair procedures.

Should there be a conflict between the legislation of the local jurisdiction and the requirements of this document or any referenced standard, the legislation of the local jurisdiction shall prevail.

This document was developed in cooperation with the referenced regulatory authorities and in cooperation with the historical boiler associations from their respective jurisdictions. The input of all participants has been invaluable in compiling this document.

This document is a living document and shall be reviewed periodically to ensure it is aligned with current industry practices and relevant engineering standards. We welcome any suggestions to improve this document. Please provide comments to:

Alberta – Mike Prefumo, ABSA Manager of Inspections: Prefumo@absa.ca.

British Columbia – Rajesh Kamboj, Senior Safety Officer, Boilers & Pressure Vessels: Rajesh.Kamboj@safetyauthority.ca

Manitoba – firecomm@gov.mb.ca

Saskatchewan – Larry Postnikoff, TSASK Manager, Operational Learning & Development, larry.postnikoff@tsask.ca

The following elements are addressed in this document:

- The inspection of historical boilers and how CSA B51-2014 and NBIC 2015 are used as the basis for inspection.

- The inspection of lap-seam boilers and how an owner is allowed to operate the boiler at its calculated MAWP as described in CSA B51-14 and NBIC 2015 Part 2 Supplement 2.
- The mobility requirements should an owner wish to operate their historical boiler in one of the listed provinces other than their home province.

2.0 DEFINITIONS AND ACRONYMS

Historical boiler – A steam boiler of riveted or welded construction, including steam tractors, traction engines, hobby steam boilers, portable steam boilers, steam locomotive boilers, and other such boilers built prior to 1955 that is preserved, restored, and maintained for demonstration, viewing, or educational purposes. (CSA B51-14)

Competent – in relation to a person, means possessing the appropriate qualifications, knowledge, skill and experience to perform the work safely.

Equipment records – includes design information, data reports, inspection plans, and inspection, repair, and alteration records.

External Inspection – a visual examination performed from the exterior of pressure equipment to find conditions that could impact the equipment's ability to maintain pressure integrity. It includes verification of the pressure relief devices.

Function Test – The process of having the operator slowly raise the pressure up to the boiler MAWP causing the safety valve to open.

In-service – the period of time during the life of pressure equipment from the beginning of commissioning until disposal.

In-service inspection – a widely used term to describe activities associated with an item of pressure equipment after it has been installed but before it has been permanently retired from service.

Internal inspection – an inspection performed from the inside of an item of pressure equipment using visual and/or nondestructive examination techniques.

Maximum allowable working pressure (MAWP) – means the pressure authorized on the design registration or a lesser pressure as indicated on the manufacturer's data report;

NBIC 2015 – National Board Inspection Code

Non-destructive examination (NDE) – Any of a number of techniques that can be used to examine a material, component, or system without causing damage. Common techniques include visual, ultrasonic, magnetic particle, liquid penetrant, radiographic, and eddy-current testing.

Operating permit or license – means a document issued by the regulatory authority authorizing the operation of a historical boiler.

Owner – includes a lessee, a person in charge, a person who has care and control and a person who holds out that the person has the powers and authority of ownership or who for the time being exercises the powers and authority of ownership.

Referenced documents – are documents that outline procedures, actions or strategies as they relate to a particular activity, standard or code.

Regulatory authority – a body responsible for administering and enforcing the legislation governing the design, fabrication, installation, repair, and alteration of boilers, pressure vessels, fittings, and piping. (CSA B51-14).

3.0 OWNER'S RESPONSIBILITIES

3.1 General

Effective processes and procedures regarding the design, inspection and maintenance are indispensable to the safe operation of pressure equipment. Pressure equipment safety cannot be assured unless the owner has effective processes and procedures that cover the full lifecycle of their pressure equipment, encompassing design, construction, installation, operation, maintenance, inspection and decommissioning. This document defines the requirements for historical boilers. CSA B51-14 and the NBIC 2015 Code Part 2 Supplement 2 will be used for the foundation of these requirements.

3.2 CSA B51-14

- 6.2.1 Requirements for lap-seam riveted boilers, except for historical boilers.
- 6.2.2 For requirements applicable to historical boilers, refer to Annex I which provides detailed requirements for inspection. Annex I also provides helpful information for preparing design submissions for registration.

3.3 NBIC 2015 Part 2 Supplement 2

- The referenced standard that will be used for the inspection of historical boilers.

3.4 NBIC 2015 Part 3 Supplement 3

- The referenced standard that will be used for preparing repair plans for historical boilers.

4.0 DETAILS

4.1 Design Registration

CSA B-51-14 states: *Prior to the historical steam boiler being placed into service, the design shall be registered with the authority having jurisdiction. The maximum allowable working pressure (MAWP) shall be calculated, based on the lesser of the original thicknesses from the affidavit/manufacture's data report or registered drawings or thickness results from non-destructive examinations (NDE) and the original factors of safety from the code of construction used, by computing the strength of each boiler component. The MAWP shall be the lesser of*

*(a) the MAWP based on the computed strength of the weakest component; and
(b) the original design MAWP.*

If the original code of construction is unknown, incomplete, or otherwise unacceptable, the appropriate edition and section(s) of the ASME Code shall be applied. Catalogues and advertising literature shall not be acceptable sources for tensile strength values and original thickness specifications.

Notes:

(1) Section I of the 1971 edition of the ASME Code is the final ASME Code edition for riveted construction.

(2) Section III of the 1952 edition of the ASME Code is the final ASME Code edition for boilers for locomotives.

4.2 Construction/Repairs

The owner shall have records validating the construction of any pressure equipment. This includes documentation of the original construction and of any repairs or alterations. The construction may be documented on a manufacturer's data report or specification sheet. Repairs or alterations shall be documented on the appropriate form from the regulatory authority where the repair was performed, or on a National Board R-1 or R-2 form. In all cases repair and alteration forms must be signed by a National Board commissioned inspector holding the "R" endorsement, deemed competent with historical repairs and employed by the regulatory authority where the repair was performed.

4.3 Operation

An operating permit or license shall be obtained from the regulatory authority where the historical boiler will be operated. Prior to the issuance of an operating permit or license, the boiler must be inspected by an inspector employed by a regulatory authority (see reference to inspection in the Maintenance section below). Each regulatory authority identified in this document may have additional

requirements. For these additional requirements, refer to the appropriate supplement included in this document.

The operator of a historical boiler shall hold the appropriate valid certificate (license, certificate of qualification, certificate of competency, etc.) issued by the jurisdiction where the historical boiler will be operated. See the appropriate supplement for the requirements of the jurisdiction.

Training records and an operating hours logbook shall be maintained to show how the operator has been trained and assessed as competent.

Valid operating permits/licenses may be accepted for transfer by the provinces referenced in this document providing requirements of the general section of this document are met. The destined operating province may have additional requirements which are detailed in the provincial supplement section of this document.

4.4 Maintenance

Historical boilers shall be subject to periodic inspections by an inspector holding an In-service Commission and employed by a regulatory authority. The inspection shall conform to CSA B51 and NBIC Part 2 Supplement 2 (the inspection of historical boilers).

Repairs and alterations to historical boilers shall be performed by the holder of a quality control program that defines in its scope the repairs to ASME Section I boilers. This quality control program shall be current and the certificate of authorization shall be issued by the regulatory authority where the repair or alteration will occur. The regulatory authority may accept repairs performed by the holder of a National Board R stamp program.

An inspector, holding the National Board R endorsement, and employed by the regulatory authority where the repair or alteration will occur, shall be involved throughout the duration of the repair or alteration and shall certify the repair on the appropriate form(s) once the repair is completed.

Historical boilers shall annually be inspected internally and externally, and pressure tested at 1.25X the validated MAWP every three years. Their safety valve(s) shall be serviced at a minimum every five years by the holder of a certificate of authorization permit for the servicing of Section I ("V" stamped and "NB" capacity certified) safety valves.

Owners shall have a procedure whereby the safety valve is function tested at every initial steaming of the historical boiler. This function test shall be to a calibrated gage and documented in the owner's log book.

4.5 Decommissioning

Historical boilers that are decommissioned because they are no longer fit for service should be left in a condition they cannot be pressured. The local jurisdiction needs to be notified of any antique boiler that has been decommissioned.

5.0 ADDITIONAL INSPECTION REQUIREMENTS

5.1 NDE Requirements

NDE inspections, as described in NBIC 2015 for initial testing are to be performed at the initial inspection and repeated every five years.

NDE technicians shall be CGSB level 2 or SNT level 2 and familiar with the inspection of historical boilers.

A detailed map of where readings are taken shall be maintained so that reading locations may be repeated.

Straight beam UT of all shell areas without stays shall be taken at a maximum grid pattern of 12 inches. Additional readings shall be taken if conditions warrants or in areas where thinning is suspected. Concerning stayed sections, the plate thickness readings shall be taken on a grid not exceeding the maximum staybolt pitch. Additional readings may be taken close to each staybolt to determine if localized thinning has occurred.

Straight beam UT of tube sheets and the dome shell shall be taken in a 6" grid pattern.

Pay close attention to rivets which are showing signs of weakening. This will be evident from leakage especially during the hydrotest. NBIC S2.10.2.2 shall be used as guidance to inspect corroded rivets.

Perform straight beam UT of 100% of the firebox stays. Radial stays shall be visually examined from the rear handhole or by using a boroscope.

Shear wave UT and MPI 100% of the lap and buttstrap longitudinal seams in the shell and the dome to validate no shell plate cracking. MPI must also be performed of all areas susceptible to cracking such as knuckles and Ogee joints. Due to the ability to inspect the lap and butt-strap long seams of the shell and the

dome using UT techniques there is no longer a need for slotting of riveted joints nor is it advisable.

UT thickness readings of the various components are to be used to calculate the MAWP following the process described in CSA B51-14 Annex I and NBIC 2015 S2.10.

The fusible plug is to be inspected annually for deterioration. The threads where the plug is inserted shall be inspected for corrosion. The fusible plug operating hours shall be recorded in the owner's logbook. Fusible plugs shall be replaced after 500 hours of operation. If operating hours cannot be validated the fusible plug shall be replaced every 3 years as per NBIC 2015 S2.8.4. Fusible plug life shall not exceed ten calendar years and leaking fusible plugs shall be replaced.

6.0 INTER-PROVINCIAL MOBILITY OF HISTORICAL BOILERS

6.1 Inspection

Historical boiler owners wishing to operate their historical boiler in another province shall satisfy all the requirements of the destination province. Refer to the appropriate supplement for the details of these requirements.

Owners should be prepared to present UT survey records, calculation of the MAWP of the boiler, inspection records signed by the National Board commissioned inspector employed by the regulatory authority in the home province. The acceptable inspection standards are CSA B51-14 and NBIC 2015 Part 2 supplement 2 (the inspection for historical boilers).

The owner shall have copies of the certification of the safety valve(s) showing that the safety valve(s) was serviced and tested in the last five years and a log record showing the function test(s) performed. The owner shall also have calibration records for the main pressure gage showing re-certification within the current year.

6.2 Operator Certification

The historical boiler operator shall hold a valid certificate or license to operate issued by the local authority where the historical boiler will be operated. Refer to the appropriate supplement for details on how to obtain this certification. The owner shall also have training and assessment records of each operator showing how the operator was deemed competent to operate the historical boiler.

6.3 Validation of Integrity

The regulatory authority, where the historical boiler is intended to be operated, shall be notified a minimum of three weeks prior to the intent to demonstrate the historical boiler. This will allow the local inspector time to review inspection records and to schedule any additional inspections required. Any outstanding inspection issues identified from the originating regulatory authority shall be cleared prior to operation in another province.

Once the historical boiler arrives in the destination jurisdiction, the jurisdictional inspector will perform an external inspection ensuring that no damage occurred during transportation.

The operator shall be requested to fire the boiler and slowly bring the pressure up to MAWP causing the safety valve to open. This action performs two integrity steps in that it demonstrates the boiler is sound for operation and validates that the safety valve will function and protect the boiler at its MAWP.

A certificate of inspection or a license to operate may be issued by the new jurisdiction authorizing the historical boiler to be operated if:

- The inspection records are acceptable;
- The testing of the safety valve is successful by raising the pressure of the boiler to the safety valve setting;
- No damage is evident from the transportation of the historical boiler;
- The design is registered in the province where the historical boiler will be operated, and;
- The operator has the required operating certificate or licence.

PART 2 - JURISDICTION-SPECIFIC SUPPLEMENTS

SUPPLEMENT 1 – ALBERTA

1.0 INTRODUCTION

This supplement describes requirements under the Alberta Safety Codes Act and Regulations, applicable for the operation of historical boilers in the Province of Alberta. This supplement includes requirements for lap-seam boilers, and additional requirements for owners of historical boilers wishing to operate their historical boiler in the province of Alberta.

The requirements for operation of historical boilers are defined in the Safety Codes Act and its Regulations

ABSA issues requirements documents for inspection and repairs (AB-506 and AB-513) which are posted on the ABSA website: absa.ca. These are applicable to the in-service inspection and repair of historical boilers operated in Alberta.

2.0 DEFINITIONS AND ACRONYMS

ABSA – is the organization delegated by the Government of Alberta to administer the pressure equipment safety legislation under the Safety Codes Act. ABSA is the regulatory authority in Alberta as defined in Part 1 of this document.

ABSA Safety Codes Officer – means a safety codes officer, designated under the Act, in the pressure equipment discipline. [PESR 1(1)(ee)]. ABSA Safety Codes Officer is the regulatory authority inspector as used in Part 1 of this document.

Act and Regulations – Means the Alberta Safety Codes Act and the following regulations:

- Pressure Equipment Exemption Order (158/2014)
- Pressure Equipment Safety Regulation (195/2015)
- Power Engineers Regulation (84/2014)
- Pressure Welders Regulation (103/2014)

Administrator – means the Administrator in the pressure equipment discipline appointed under the Act [SCA, 1(1)(e)].

Certificate of Authorization Permit (CAP) – means a permit issued pursuant to section 44 of the Act authorizing a person to carry out the activities stated on the certificate of authorization permit.[PESR 1(1)(g)]. This indicates a person has an accepted quality control program as used in Part 1 of this document.

Certificate of inspection permit (CIP) – means a permit issued pursuant to section 44 of the Act authorizing the operation of a boiler, pressure vessel, fired-heater pressure coil or thermal liquid heating system as stated on the certificate of inspection permit.

Integrity management system (IMS) – means a system for ensuring that pressure equipment is designed, constructed, installed, operated, maintained and decommissioned in accordance to the regulations.

Owner – includes a lessee, a person in charge, a person who has care and control and a person who holds out that the person has the powers and authority of ownership or who for the time being exercises the powers and authority of ownership [SCA 1(1)(v)].

PESR – Pressure Equipment Safety Regulation (Alberta Regulation 49/2006)

PER – Power Engineers Regulation (Alberta Regulation 85/2003)

3.0 OWNER'S RESPONSIBILITY

3.1 General

The Pressure Equipment Safety Regulation (PESR) requires every owner to maintain an effective integrity management system for their pressure equipment.

3.2 Legislation, Adopted Codes

- **Pressure Equipment Safety Regulation**
 - PESR 14 Pressure equipment design registration
 - PESR 33 Certificate of inspection permit
 - PESR 35 Unsafe condition, accident or fire
 - PESR 37 Responsibility of Owners
 - PESR 40 Repairs and Alterations
 - PESR 45 Riveted lap joints
 - PESR 46 Historical pressure equipment

- **Power Engineers Regulation**
 - PER 22.1 mandates the requirement for the operator to hold a Special Steam-Powered Traction Engine Operator's Certificate of Competency

4.0 REQUIREMENTS

4.1 Design

PESR section 14 mandates the design of pressure equipment shall be registered.

4.2 Operation

PESR section 33 mandates that a certificate of inspection permit shall be issued prior to the operation of any pressure equipment in the Province of Alberta.

4.3 Responsibilities of Owners

PESR section 37 establishes responsibilities for the owner:

- a) the pressure equipment meets the requirements of this Regulation,
- (b) an integrity management system is in place for the pressure equipment,
- (c) the pressure equipment and pressure relief devices, pressure gauges and regulating or controlling devices on them are maintained in good working order and are operated safely,
- (d) safe operating limits are established for the pressure equipment,
- (e) the pressure equipment is operated within established safe operating limits,
- (f) there are adequate and suitable instructions for the safe operation of the pressure equipment, and
- (g) the person operating the pressure equipment is competent.

4.4 Repairs

PESR section 40 established requirements for repairs and alterations. Repairs and alterations to historical boilers shall be performed by the holder of a certificate of authorization permit with the scope for the repair of ASME Section I repairs. Welders shall meet all the requirements of the Pressure Welders Regulation and hold a valid performance qualification card. Welding shall be performed by following a valid registered welding procedure (WPS). Repairs performed outside of Alberta, but within Canada, shall be done by the holder of an equivalent registered quality program issued by the Canadian jurisdiction where the repair will occur or by the holder of the National Board R stamp program.

ABSA safety codes officer must be notified prior to starting any repair or alteration that will be undertaken in the Province of Alberta. Refer to AB-513 for details.

4.5 Lap-seam Boilers

PESR section 45(1) states: “*After a riveted longitudinal lap joint boiler’s or pressure vessel’s 20th year of age, the factor of safety must be increased by at least 0.1 each year*”. Owners, wishing to operate their longitudinal lap joint boiler at the calculated MAWP rather than the mandated MAWP as defined in PESR section 45(1), need apply to the Administrator for a variance to clause PESR 45(1) for the historical boiler in question and provide documentation that justifies equivalent safety.

4.6 Decommissioned

ABSA requires notification, per PESR 36(1) (b), whenever pressure equipment is decommissioned. ABSA form AB-10 shall be used for ABSA notification and confirmation of decommissioning. This process invalidates the Certificate of Inspection Permit.

4.7 Inter-Provincial Mobility of Historical Boilers

Historical boiler owners from other jurisdictions wishing to operate their boiler in the province of Alberta shall demonstrate integrity and have valid inspection records that meet all of the above requirements.

ABSA shall be notified a minimum of three weeks prior to the intent to operate the historical boiler in Alberta. An ABSA safety codes officer shall review the documentation, perform the visual external inspection and witness the safety valve demonstration all as prescribed in Part 1 section 6 of this document. A certificate of inspection permit may be issued to authorize the operation of historic boilers that comply with Part 1 and which otherwise meet the requirements of the PESR.

The historical boiler operator shall obtain a Special Steam-powered Traction Engine Operator’s Certificate of Competency. This certificate may be obtained in two methods: validation of the equivalent certificate from another province and have the certificate recognized and have an Alberta certificate of competency issued or undertaking the examination as described in PER section 22.1. The application process is described on ABSA’s website.

The Fee Schedule for Delegated Functions effective Oct. 1, 2014 mandates that pressure equipment, including boilers, which reside in the province of Alberta must pay an annual fee. Details of this fee schedule may be found on the ABSA website absa.ca. Boilers, which do not reside in the province of Alberta and require inspection followed by the issuance of a Certificate of Inspection Permit in order to operate in the province of Alberta, may be required to pay a special inspection fee for the inspection.

SUPPLEMENT 2 – MANITOBA

1.0 INTRODUCTION

This supplement describes requirements under the Manitoba Steam and Pressure Plants Act and Regulations, applicable for the operation of historical boilers in the Province of Manitoba. This supplement includes requirements for lap-seam boilers, and additional requirements for owners of historical boilers wishing to operate their historical boiler in the province of Manitoba.

2.0 DEFINITIONS AND ACRONYMS

OFC – The Office of The Fire Commissioner is the Agency responsible for the administration of the Steam and Pressure Plants Act and Regulation and Power Engineers Act and Regulation.

Act and Regulations – Means the Manitoba Steam and Pressure Plants Act and Regulations, and Power Engineers Act and Regulations:

3.0 REQUIREMENTS

3.1 Repairs

Repairs and alterations to historical boilers shall be performed by the holder of a certificate of authorization permit with the scope for the repair of ASME Section I repairs. Welders shall meet all the requirements of the Pressure Welders Regulation and hold a valid performance qualification card. Welding shall be performed by following a valid registered welding procedure (WPS). Repairs performed outside of Manitoba, but within Canada, shall be done by the holder of an equivalent registered quality program issued by the Canadian jurisdiction where the repair will occur or by the holder of the National Board R stamp program.

The OFC must be notified prior to starting any repair or alteration that will be undertaken in the Province of Manitoba.

3.2 Decommissioned

The OFC requires notification, whenever pressure equipment is decommissioned.

3.3 Inter-Provincial Mobility of Historical Boilers

Historical boiler owners from other jurisdictions wishing to operate their boiler in the province of Manitoba shall demonstrate integrity and have valid inspection records that meet all of the above requirements.

The OFC requests notification a minimum of three weeks prior to the intent to operate the historical boiler in Manitoba. An OFC inspector will review the documentation, perform the visual external inspection and witness the safety valve demonstration all as prescribed in Part 1 section 6 of this document. A certificate of operation may be issued to authorize the operation of historic boilers that comply with Part 1 and which otherwise meet the requirements of the Steam and Pressure Plants Regulation.

The historical boiler operator shall obtain a Special Steam-powered Traction Engine Operator's Certificate. This certificate may be obtained in two methods: validation of the equivalent certificate from another province and have the certificate recognized and have a Manitoba certificate of competency issued or undertaking the examination as described in Power Engineers Regulation section 5(8).

SUPPLEMENT 3 – BRITISH COLUMBIA

1.0 INTRODUCTION

This supplement describes requirements under the British Columbia *Safety Standards Act* and Regulations, applicable for the operation of antique show boilers (historical boilers) in the Province of British Columbia.

The requirements for operation of historical boilers are defined in the *Safety Standards Act* and its Regulations.

2.0 DEFINITIONS AND ACRONYMS

Antique show boiler (historical boiler) – means a boiler forming part of a traction engine, threshing machine, steam locomotive, steam crane, donkey boiler plant or other plant of historical interest.

BCSA – British Columbia Safety Authority, is an independent organization delegated by the Government of British Columbia to oversee the safe installation and operation of technical systems and equipment under the *Safety Standards Act*.

Safety Officer – means a boiler safety officer, appointed under section 11 of *Safety Standards Act* and holder of Certificate of qualification as a Boiler Safety Officer under section 65 of *Power Engineers, Boiler, Pressure vessel and Refrigeration Safety Regulation*.

Act and Regulations – Means the British Columbia *Safety Standards Act* and the following regulations:

- *Safety Standards General Regulation (B.C. Reg. 105/ 2004)*
- *Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation (B.C. Reg. 104/ 2004)*

Provincial Safety Manager – means the Provincial Boiler Safety Manager appointed under section 11 of *Safety Standards Act*

Licensed Contractor – means a person who is licensed under section 23 of *Safety Standards Act* as a licensed contractor to do regulated work in one or more disciplines specified in the license. This indicates a person has an accepted quality control program as used in Part 1 of this document.

Owner – includes a lessee, a person who owns a regulated product.

PEBPVR – *Power Engineers, Boiler, Pressure vessel and Refrigeration Safety Regulation (B.C Reg. 104/ 2004)*

SSGR – Safety Standards General Regulation (B.C. Reg. 105/ 2004)

3.0 REQUIREMENTS

3.1 Design

PEBPVR section 84 mandates the design of all boilers, pressure vessels, fittings and pressure piping must be registered with the provincial safety manager. Exception to this requirement can be made for antique show boilers, having design registered in the originating Canadian jurisdiction, which come to British Columbia on temporary basis (not more than one month).

3.2 Operation

PEBPVR section 62 mandates that a person must hold an operating permit for each boiler and pressure vessel. To operate an antique show boiler in British Columbia, a person must have a valid operating permit and the operator must be the holder of the Antique Show Boiler Operator's certificate of qualification. The certificate of qualification entitles the holder to operate the antique show boiler that is specifically named on their certificate.

3.3 Responsibilities of Owners

PEBPVR establishes obligations of owners and requires that the owners:

- a) must inform the provincial safety manager and comply with the Part-1 requirements before the antique show boiler is put in operation.

- (b) must designate the antique show boiler operator's certificate of qualification holder in writing to be responsible for the operation and maintenance of, an antique show boiler,

- (c) must prepare the equipment for inspection as required under section 64,

- (d) must report any incidents and must conduct an investigation of the incident and submit a written report of the findings to the provincial safety manager within 30 days of the incident,

- (e) must maintain records for a period of at least 7 years.

3.4 Repairs and Alteration

PEBPVR section 86 specifies that a person must not repair a boiler or pressure vessel unless the person has notified a safety officer and received approval from the safety officer for the repair procedures to be used.

PEBPVR section 87 specifies that a person must not perform an alteration to a boiler or pressure vessel unless that person has registered the alteration with the provincial safety manager.

Any repair or alteration to the pressure retaining item of antique show boiler must be performed by a licensed class “A” contractor with the scope for the repair or alteration of power boilers.

Repairs or alteration performed outside of British Columbia, but within Canada, shall be performed by the holder of an equivalent registered quality control program issued by the Canadian jurisdiction where the repair or alteration will occur or by the holder of the National Board R stamp program. The repair or alteration must be inspected and accepted by the Canadian jurisdictional inspector where the repair is performed.

3.5 Purchase or Disposal

PEBPVR section 83 requires a person who purchases or disposes a boiler or pressure vessel to, within 30 days after the date of the purchase or disposition, give the provincial safety manager written notice of the purchase or disposition. Once the antique show boiler leaves the jurisdiction of British Columbia or is de-commissioned, the owner must inform BCSA and have the operating permit cancelled using Form 1539 (Operating Permit Declaration of Status Change).

3.6 Inter-Provincial Mobility of Antique Show Boilers

Antique show boiler owners from other jurisdictions wishing to operate their boiler in the province of British Columbia shall demonstrate integrity of the boiler and have valid inspection records of the boiler that meet all of the part-A common requirements.

BCSA shall be notified a minimum of three weeks prior to the intent to operate the antique show boiler in British Columbia. A BCSA safety officer shall review the documentation, perform the visual external inspection and witness the safety valve demonstration as prescribed in Part 1 section 6 of this document. An operating permit may be issued to authorize the operation of antique show boilers that comply with Part 1 and which otherwise meet the requirements of the PEBPVR.

The antique show boiler operator shall obtain an Antique Show Boiler Operator’s Certificate of Qualification. This certificate may be obtained in two methods:

1. Provincial safety manager may issue a corresponding certificate of qualification upon validation of the equivalent certificate from another Canadian jurisdiction under SSGR section 2.1

2. Certificate of qualification issued under the provision of PEBPVR section 33.

The application process for obtaining certificate of qualification is described on [BCSA's website certification page](#) .

SUPPLEMENT 4 – SASKATCHEWAN

1.0 INTRODUCTION

This supplement describes requirements under the Saskatchewan *Boiler and Pressure Vessel Act, 1999* and Regulations, applicable for the operation of steam traction engines in the Province of Saskatchewan. This supplement includes requirements for lap-seam boilers, and additional requirements for owners of steam traction engines wishing to operate their steam traction engine in the province of Saskatchewan.

2.0 DEFINITIONS AND ACRONYMS

TSASK – Technical Safety Authority of Saskatchewan, is an independent not-for-profit company established by the Government of Saskatchewan to administer and enforce the Act and Regulations.

Act and Regulations – Means the Saskatchewan *Boiler and Pressure Vessel Act, 1999* and Regulations.

3.0 REQUIREMENTS

3.1 General Requirements

The Saskatchewan Boiler and Pressure Vessel Regulations are currently in process of a review and amendment by the Ministry of Government Relations. Changes to the requirements for steam traction engine inspection, licensing, operation, and repairs are expected. These changes are expected to come into force prior to the 2018 steam traction engine operating season. An update to this inter-provincial document will be made once the Regulations have been approved by Government.

3.2 Inter-Provincial Mobility of Historical Boilers

Steam traction engine owners from other jurisdictions wishing to operate their steam traction engine in the province of Saskatchewan shall notify TSASK a minimum of three weeks prior to the intent to operate the steam traction engine in Saskatchewan to discuss current requirements prior to an update of the Regulations.

7.0 REVISION LOG

| Edition # | Revision # | Date | Description |
|-------------|------------|-------------------|-------------|
| 1st Edition | | issued 2017-08-30 | |
| | | | |
| | | | |