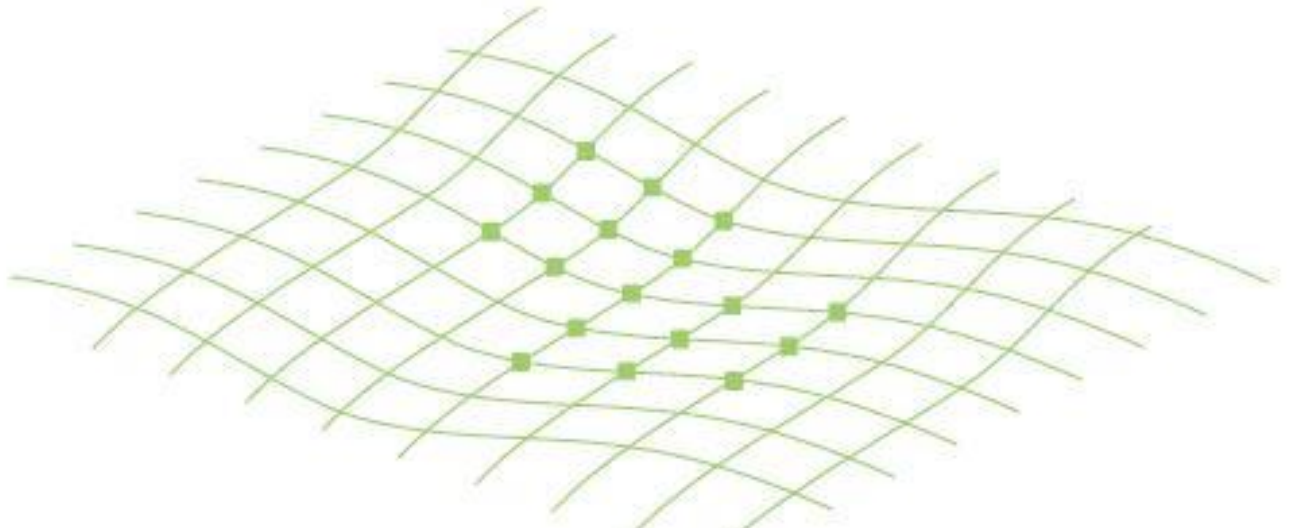


B Contractor License

GUIDE FOR ASSESSMENT TEAMS & APPLICANTS



Prepared by: **Ed Hurd P.Eng. Provincial Safety Manager, Boilers**

Date: June 26, 2013

MAN-4049-00

INTRODUCTION

This guide is intended for the use of BCSA contractor assessment team members for the assessment of a class B contractor license application as well as B contractor license applicants in preparing for an assessment. It is not to be used to replace or interpret the requirements of the CSA B-51 or National Board Inspection Code. It details the legislative, code, standards and BC Safety Authority procedural requirements of which an applicant must be knowledgeable and which a Safety Officer will verify during an applicant's assessment.

The guide is based upon CSA B-51 and National Board Inspection Code requirements for the installation, and repair of boilers, pressure vessels and pressure piping systems. The guide is subject to revision based on changes made to CSA B-51 and other codes, from time to time.

It is recognized that the scope of work, may vary from one contractor applicant to another, therefore only those activities to be performed under the scope of an applicant's BCSA Contractors License will be addressed. BCSA assessment teams are advised that this guide may not outline all possible aspects of each assessment.

HOW TO USE THIS GUIDE

Review each item in the checklist to verify that the applicant has adequate knowledge of the legislative, code, standards and BC Safety Authority procedural requirements for a class B contractor:

Check (√) the applicable column - "Yes", "No" or "N/A" (Not Applicable)



**Class B Contractor License
Assessment Summary Sheet**

COMPANY: _____

DATE: _____

COMPANY REPRESENTATIVE:

ASSESSING SAFETY OFFICERS :

RECOMMENDATION:

Issuance of License Yes _____ No _____

SAFETY OFFICERS' SIGNATURE:

Name

Signature

Name

Signature

ITEM No.	SECTION	YES	NO	N/A
1.0	<u>ACT , REGULATIONS AND CODES</u>			
1.1	Does the applicant have a copy of : <ul style="list-style-type: none"> i. Safety Standards Act ii. Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulations iii. Specified code books <ul style="list-style-type: none"> - CSA-B51 Boiler, Pressure Vessel and Pressure Piping Codes - ASME CSD-1 			
1.2	Does the applicant know which additional codes are applicable to the scope of work that will be carried out (installation and/or repairs of boilers, pressure vessels, pressure piping or entire plants) and have copies of the applicable codes? <ul style="list-style-type: none"> - ASME Section I - Power Boilers - ASME Section II - Part A: Ferrous Material Specifications <ul style="list-style-type: none"> Part B: Nonferrous Material Specification Part C: Welding and Brazing Material Specifications Part D: Material Properties - ASME Section IV – Heating Boilers - ASME Section IX- Welding and Brazing Qualifications - ASME B31.1 – Power Piping - ASME B31.9 – Building Services Piping - NBIC-NB23 - National Board Inspection Code for Boilers and Pressure Vessels 			

ITEM No.	SECTION	YES	NO	N/A
	Part 1 – Installation Part 2 – Inspection Part 3 – Repairs and Alterations			
2.0	<u>SCOPE OF LICENSE</u>			
2.1	Does the applicant know the scope of a B contractor’s license? - installation, and maintain the following types of plants: <ul style="list-style-type: none"> i. Fluid heating plants of 75 m² or less of heating surface ii. Steam heating plants of 30m² or less heating surface; iii. Power plants of 10m² or less of heating surface, and iv. Water heaters with inputs exceeding 120 kW. - plants include boilers, pressure vessels, pressure piping and fittings - repair or alteration of pressure retaining components of boilers or pressure vessels is not within the scope of a class B contractor’s license.			
3.0	<u>DUTIES OF A LICENSED CONTRACTOR</u>			
3.1	Does the applicant know the regulatory responsibilities of a licensed contractor? <ul style="list-style-type: none"> - Specified in section 61 of the Regulation - must notify a safety officer before the commencing any regulated work (construction, installation, repair or alteration of boilers, pressure vessels or piping systems) - must provide satisfactory evidence that the work is within the scope of the contractor's licence. - construction, installation, repair or alteration must be completed in accordance with the Regulation, code and standards. 			

ITEM No.	SECTION	YES	NO	N/A
	<ul style="list-style-type: none"> - must notify the safety officer when the work has reached the inspection point specified by the safety officer - may not continue with the installation or repair work past the inspection point without the approval of a safety officer. - must notify a safety officer that the regulated work is complete - must submit to a safety officer data reports, as defined in CSA B51 or the National Board Inspection Code ANSI/NB-23, for every installation, or repair 			
4.0	<u>PERMITS</u>			
4.1	<p>Does the applicant understand the installation permitting process?</p> <ul style="list-style-type: none"> - must have a boiler installation permit to install a boiler in the following plants: <ul style="list-style-type: none"> i. Fluid heating plants exceeding 3 m² of heating surface ii. Steam heating plants exceeding 3 m² of heating surface; iii. Power plants exceeding 2 m² or less of heating surface, and iv. Water heaters with inputs exceeding 120 kW. - boiler installation permit is not required for a boiler or water heater in a plant which does not exceed the limits listed above (gas fired or electrical boilers below these limits require gas or electrical installation permits) - an installation permit is not required for pressure vessel or pressure piping system 			
4.2	<p>Is the applicant familiar with operating permit requirements to advise clients of newly installed equipment?</p> <ul style="list-style-type: none"> - owner/operator of a boiler or pressure vessel must hold an operating permit 			
5.0	<u>DESIGN REGISTRATION</u>			

ITEM No.	SECTION	YES	NO	N/A
5.1	<p>Is the applicant familiar with design registration requirements for boiler and pressure vessels?</p> <ul style="list-style-type: none"> - boilers requiring an boiler installation permit and pressure vessels are designed and constructed to CSA B51 and ASME Boiler and Pressure Vessel Codes - design of all boilers and pressure vessels must be registered with the BC Safety Authority. - design registration is verified by the issue of a Canadian Registration Number (CRN). - CRN's for BC have a letter and four numbers followed by a decimal point and a 1 after the decimal. Those valid for British Columbia will have a number one after the decimal eg: A1234.1; - CRN will be on the vessel nameplate and listed on the manufacturer's data report (MDR). - design registration is typically completed by the boiler or pressure vessel manufacturer. 			
5.2	<p>Is the applicant familiar with requirements for piping systems and registration of designs?</p> <ul style="list-style-type: none"> - pressure piping systems are piping systems containing an expansible fluid, or a non-expansible fluid (fluids with an operating temperature exceeding 121⁰ C or a working pressure exceeding 1100 kPa) - an expansible fluid is any vapour, gas or liquid that will change to a vapour or gas at atmospheric conditions (14.7 psia and 70°F). - pressure piping systems shall be registered in accordance with CSA B51 "Boiler, Pressure Vessel and Pressure Piping Code". 			

ITEM No.	SECTION	YES	NO	N/A
	<ul style="list-style-type: none"> - piping to be installed and constructed to ASME B31.1, B31.3 or B31.9 - exempted from the Regulation: <ul style="list-style-type: none"> o piping system operating at and with a relief valve or valves set at 103kPa or less. o piping in a low temperature low pressure fluid plant (a plant containing a liquid but not thermal fluids operating at a working pressure of 206 kPa or less and a temperature of 100°C or less) - design of pressure piping that is in a heating plant or NPS 3 or less does not require registration but must comply with all other requirements of the Regulation and CSA B51/ASME code. - design registration is required for all other piping systems greater than NPS 3 - registered piping systems are issued a design registration letter and registration number (P1234) 			
5.3	<p>Is the applicant familiar with requirements for fittings?</p> <ul style="list-style-type: none"> - fittings are valves, gauges, flanges, nozzles or other similar components attached to a boiler, pressure vessel or pressure piping system. - fittings shall be registered. - design registration verified by CRN - fitting CRN's for BC are alpha numeric having a zero followed by a letter and four numbers followed by a decimal point with a 1 after the decimal. eg: 0A1234.1; - registered in a category: <p>Category A - couplings, tees, elbows, wyes, plugs, unions Category B - flanges Category C - valves</p>			

ITEM No.	SECTION	YES	NO	N/A
	<p>Category D- expansion joints, flexible connectors, hose assemblies</p> <p>Category E - strainers, filters, separators and steam traps</p> <p>Category F - measuring devices, pressure gauges, level gauges, sight glasses, levels, and pressure transmitters</p> <p>Category G - pressure relief devices</p> <p>Category H- pressure retaining components not in Categories A to G</p> <ul style="list-style-type: none"> - Categories A, B, C, and G exempted from registration in British Columbia as per Directive No. D-B6 070402 3 but must comply with the standards listed in the ASME boiler and piping codes. 			
6.0	<u>INSTALLATION REQUIREMENTS</u>			
6.1	<p>Does the applicant understand the requirements for welding?</p> <ul style="list-style-type: none"> - contractor must used welding procedures registered with the BCSA or pre-qualified weld procedures (PWP) - welder must be qualified for the welding procedure used - welder must have a Welder’s Log Book with an A or B endorsement with the welding procedure listed in the log book 			
6.2	<p>Does the applicant know what boiler safety devices and controls must be installed on a boiler?</p> <ul style="list-style-type: none"> - water level controls <ul style="list-style-type: none"> Steam – 2 LWCO’s (one may be combined feed/cutoff) Hot water – one LWCO - boilers requiring forced flow require flow control which shuts down burner if flow is not adequate - pressure controls <ul style="list-style-type: none"> - steam boiler must have one pressure control and high 			

ITEM No.	SECTION	YES	NO	N/A
6.3	<p>pressure limit control which shuts down and locks out boiler</p> <ul style="list-style-type: none"> - temperature control <ul style="list-style-type: none"> - hot water boilers must have a temperature control and a high temperature limit control which shuts down and locks out boiler - safety relief valve <ul style="list-style-type: none"> - at least one safety relief valve set at or below MAWP - capacity must exceed output of the boiler - hot water heaters require a pressure/temperature safety relief valve which set at or below 99⁰C- requirements in CSA B51 section 6 and CSD-1 Part CW - remote operated shutdown switch or circuit breaker outside boiler room which shuts off fuel or power to boiler <p>Does the applicant know the required installation clearances for boilers and pressure vessels?</p> <p>Boilers</p> <ul style="list-style-type: none"> - require adequate access for operation, inspection and maintenance (cleaning or replacing tubes or burners) - minimum 24" sides and rear - 12" above floor if there is a bottom opening or handhole - ladders, walkways or stairs for access to parts required for operation of boiler - requirements in CSA B51 section 6.3.3 <p>Pressure Vessels</p> <ul style="list-style-type: none"> - minimum 24" sides and rear - require adequate access for operation, inspection and maintenance - ladders, walkways or stairs for access to parts required for operation of - requirements in CSA B51 section 7.2 - cushion tanks exceeding 207kPa (30 psig) or 610 mm (24 in.) 			

ITEM No.	SECTION	YES	NO	N/A
6.4	<p>diameter must have a CRN</p> <ul style="list-style-type: none"> - cushion tanks exceeding 207kPa (30 psig) or 610 mm (24 in.) diameter are exempt <p>Can the applicant explain what is a repair and how it different from an alteration?</p> <p>Repair - work to restore a boiler or pressure vessel to a safe and satisfactory operating condition, with no deviation from the original design</p> <p>Alteration – a change in the design(materials, components) or a revision to the MAWP or MAWT and are not in scope of B license</p> <p>Is the applicant familiar with requirements for repairs?</p> <ul style="list-style-type: none"> - repairs shall not be initiated without the authorization of a Safety Officer - repair method shall be acceptable to the Safety Officer - pressure test to be carried out after repairs - all repairs shall be documented in the “Repair/Alteration Report Form 			
7.0	<p><u>MAINTENANCE OF LICENSE</u></p>			
7.1	<p>Does the applicant understand the requirements for maintaining a license?</p> <ul style="list-style-type: none"> - failure to comply with the Act, Regulation, and applicable codes or standards, may result in the issue of compliance orders, discipline orders, monitory penalties or the suspension of the contractor’s license - BCSA informed of any address, ownership, organizational change - if a licensed organization is sold the new owner is 			

ITEM No.	SECTION	YES	NO	N/A
8.0	<p>required to make application for a B license</p> <ul style="list-style-type: none"> - licenses renewed annually on the anniversary date provided the contractor continues to meet all prescribed requirements for licensing and pays the required renewal fees. - licensed contractors may be subject to an assessment of their installation or repair procedures by the BC Safety Authority, at any time. <p>Letter of Understanding was reviewed and signed</p> <p>Yes _____ No _____</p>			



Revision History

Revision	Revision Date	Revision history	Revised by
00	2012-09-04	New release	Ed Hurd

Approval

This document has been approved for adequacy by:

Ed Hurd, Safety Manager – Boiler Technology

September 4, 2012

Date