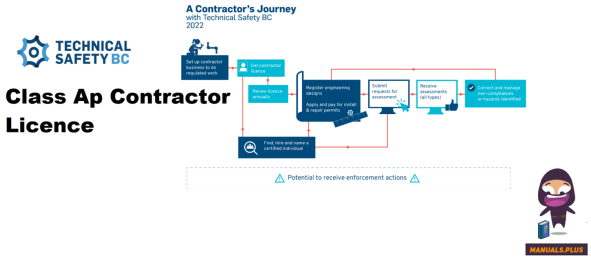
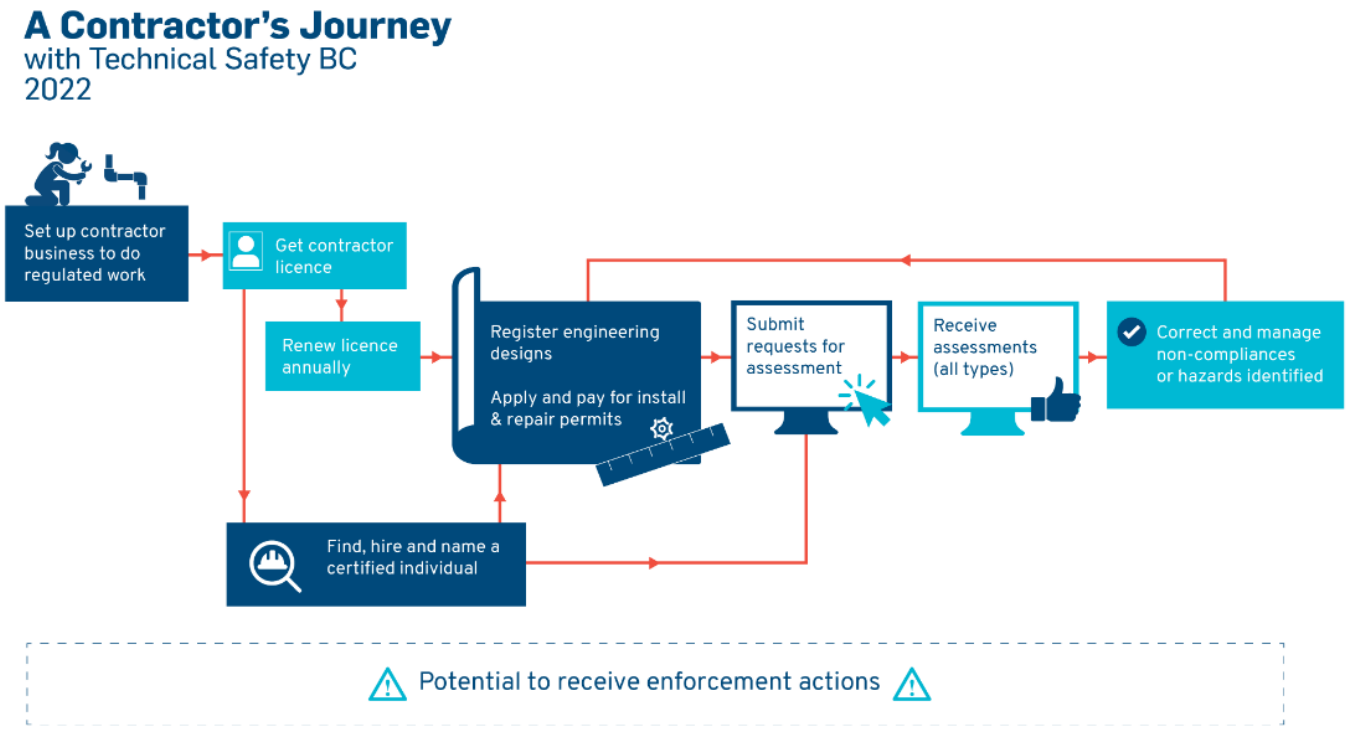


TECHNICAL SAFETY BC Class Ap Contractor Licence User Guide

Contents

TECHNICAL SAFETY BC Class Ap Contractor Licence



Specifications

- **Product Name**: Boilers, Pressure Vessels, and Refrigeration Class Ap Contractor Licence Guideline
- **Date**: May 8, 2024
- **Controlled Document**: BRC-7027-02

Product Information
The Boilers, Pressure Vessels, and Refrigeration Class Ap Contractor Licence Guideline provides detailed instructions and requirements for applicants seeking a Class Ap contractor licence under the Power Engineers, Boiler, Pressure Vessel, and Refrigeration Safety Regulation. It outlines the necessary steps for developing, updating, or revising quality control programs to ensure compliance with regulatory standards.

Product Usage Instructions

1. **Guideline's Scope**
   The guideline assists applicants in creating quality control programs relevant to a Class Ap contractor licence. It should be used in conjunction with the regulatory notice Directive: Boiler, Pressure Vessel & Refrigeration Contractor Licencing Requirements.
2. **Application Process**
   To apply for a Class Ap contractor licence, applicants must submit a completed application form, a current quality control program, and pay the application fee to Technical Safety BC. Detailed information can be found on the website.
3. **Quality Control Program**
   Applicants must include a documented quality control program with their application. The program should outline processes, procedures, and controls to ensure compliance with regulatory requirements.
4. **Quality Control Program Manual Guideline**
   Appendices A and B provide essential details for documenting a quality control program manual. Additional information may be required based on the scope of work and specific code requirements.

5. **Review and Acceptance**
   Technical Safety BC reviews the quality control program before issuing a contractor licence. Applicants must demonstrate compliance with CSA B51 code requirements.

- **www.technicalsafetybc.ca**
- **Toll-free**: 1 866 566 7233

Safety Notice

- **Disclaimer:**
  - Please note that references to the legislation, codes, directives, safety orders, and web pages throughout this document may not reflect the most recent versions available.
  - Also, the references in this outline are by no means an exhaustive list of all the situations that may apply to a particular situation.
  - Therefore, the user should make sure that references are current and relevant to any situation that they are dealing with.
  - The latest version of this document is available in PDF format on the Technical Safety BC website: **https://www.technicalsafetybc.ca/**

1. **The Guideline's Scope**
   This guideline has been created to assist applicants in developing, updating, or revising quality control programs that are applicable to a Class Ap contractor licence under the **Power Engineers, Boiler, Pressure Vessel, and Refrigeration Safety Regulation** (the "Regulation"). The guideline should be used in conjunction with our regulatory notice, **Directive: Boiler, Pressure Vessel & Refrigeration Contractor Licencing Requirements (D-BP 2019-01)**.
2. **Application for a Class Ap Contractor Licence**
   To apply for a Class Ap contractor licence, the applicant must submit a completed application **form**, a current copy of their documented quality control program, and pay the non-refundable application fee to Technical Safety BC. Application submission options, the schedule of applicable fees, and other information are available on our **website**.
3. **Quality Control Program**
   The submission of a documented quality control program alongside the applicable application is a required part of the application process for a Class Ap contractor licence. Quality control programs must detail the organization's processes, procedures, and controls for maintaining compliance with the requirements applicable to the scope of work described. Quality control programs must take into consideration all applicable regulatory requirements, including, but not limited to, the **Safety Standards Act** (the Act) and Regulations, adopted codes, directives, and safety orders. The necessary scope and detail of the program will depend on the complexity of the work to be performed and on the size of the organization that will be performing the regulated work. Regulated work may be performed in a fixed location, for example, in a shop, at a field location(s), or at both, provided the quality control program describes the controls. A quality control program is documented in a manual that provides a comprehensive, detailed, and regularly updated overview of the

quality control program.

4. **Quality Control Program Manual Guideline**

   Appendices A and B detail the minimum information to document in a quality control program manual. The information in the appendices provides guidance for the planning, development, implementation, and maintenance of an effective quality control program and should be used in conjunction with Appendix F in CSA B51: Boiler, pressure vessel, and pressure piping code. Depending on the scope of the regulated work to be performed and the specific applicable code requirements, additional information that is beyond the contents of this guideline may be required.

5. **Review and Acceptance of the Applicant's Quality Control Program**

   Technical Safety BC reviews the quality control program for acceptance before issuing a contractor licence. Additionally, in accordance with the adopted **CSA B51** code, the applicant will need to demonstrate that they meet the following requirements:

   - They have adequate equipment and facilities to perform the scope of work specified in their quality control program.
   - They have a thorough working knowledge of their quality control program including any written processes, procedures, or forms.

     Technical Safety BC will review the demonstration project and assess the application of the quality control program requirements. Once accepted and applicable fees are paid, Technical Safety BC will issue the Class Ap contractor licence.

6. **Maintaining the Quality Control Program**

   Quality control programs must remain current, up to date, and in compliance with the Safety Standards Act, and they must accurately reflect the current requirements contained in the Act and Regulations, adopted codes, directives, and safety orders as amended from time to time. A licensee may change, update, or revise their quality control program at any time, provided that they submit the changes, updates, or revisions to Technical Safety BC, using applicable submission options available on our **website** before implementation. For more information, see **Directive: Boiler, Pressure Vessel, and Refrigeration Contractor Licensing Requirements**. The licensee must review their quality control program for any changes that may affect the program and must submit any required revisions to Technical Safety BC for review and acceptance prior to implementation. At a minimum, quality control programs must be reviewed annually prior to submitting for licence renewal.

7. **Audits of the Licensed Contractor Quality Control Program**

   Quality control programs are subject to inspection, including investigation, monitoring, and audit, by Technical Safety BC at any time. We inspect licensee's quality control programs and associated regulated activities to confirm that a contractor is meeting the expectations under their licence, including, but not limited to, following and applying all aspects of their quality control program.

Appendix A. Quality Control Program Manual Guideline

The following information provides guidance for documenting an effective quality control program within a manual and should be used in conjunction with CSA B51, including 'Annex F'. Depending on the complexity of the regulated work to be performed and the specific applicable code requirements, additional information that is beyond the contents of this guideline may be required in the manual.

1. **Cover Page**

   Note the following information on the quality control program manual's cover page:

   - the organization's name, logo, and physical address;

- the contractor's licence number and class;
- a summary or preview of the quality control program's scope;
- the manual issue date;
- the manual edition;
- the manual revision level; and
- whether the manual document is a controlled or uncontrolled copy, etc.

2. **Scope**

   Provide a detailed scope (see Table 1) of work that identifies the regulated work that will be performed by the organization:

   - Reference the class of contractor licence.
   - Indicate, by listing all applicable adopted code sections and standards and by retaining up-todate copies of the applicable codes adopted by the **Power Engineers, Boiler, Pressure Vessel, and Refrigeration Safety Regulation** (the "Regulation"), that the regulated work will be performed according to the described scope of work.
   - Describe the controls that are put in place to ensure that regulated work outside the scope of the contractor licence will not be performed, and that the contractor will comply with the contractor licence terms and conditions.
   - Specify where the regulated work will be taking place and include provisions for implementing the quality control program in the manufacturing shop, at a field location(s), or both, as is applicable.
   - List the activities that will be performed solely by the licensee organization and those that will be subcontracted to competent third parties. Examples of activities to consider are design, drawings, pressure welding, non-destructive examination, and heat treatment. During the review of the quality control program, Technical Safety BC will use the scope of work provided to determine the complexity of the regulated work to be performed.

     Table 1. This scope of work applicable to a Class Ap contractor licence is provided for reference. See the **schedule** of the Regulation for a list of the adopted codes and standards.

Class Ap	Reference: Scope of work
Pressure piping	Construction, installation, hot tapping, repair, or alteration of pressure piping conforming to CSA B51 and following any applicable code(s). i.e., National Board NB-23, ASME B31.1, B31.3, B31.5, and B31.9 Note: Installation of B31.5 refrigeration piping requires a class REF licence

3. **Statement of Authority and Responsibility**

   Describe the authority and responsibilities of the person(s) in charge of the quality control program. In addition, provide documentation that those in charge have the freedom to identify non-compliances and to take corrective actions, including stopping work if needed, with the full support of management. The highest authority noted on the organizational chart must sign the Statement of Authority and Responsibility: include a copy of that signed statement in the quality control program manual.

4. **Tables of Contents, Revision History, and Defined Terms**

   In this section of the manual, include the following three tables:

   - a table of contents, listing the manual's sections and exhibits, its revision level, and room for the

contractor to approve the manual and for Technical Safety BC to accept it by signing and dating or other means;
- a table that tracks the manual's revision history; and
- a table of definitions (glossary) for all abbreviated titles of personnel, control documents, organizations, cited codes, standards, laws, and regulations, and any technical terms used frequently within the manual.

5. **Manual Control**

   In the quality control program manual, stipulate provisions for how it will be prepared, revised, distributed, and implemented. The provisions should specify the person(s) responsible for the manual's control, including for submitting manual revisions to Technical Safety BC, and should describe how the licensed contractor will review and update the manual to ensure that knowledge of the **Safety Standards Act** and Regulations, directives, safety orders, adopted codes, and standards is maintained and kept current.

6. **Organizational Chart**

   Include an organizational chart that shows the reporting relationships and lines of communication between management, engineering, purchasing, manufacturing, production, inspection, quality control, and subcontractors, as applicable and as reflects the actual organization. Brief explanations of the duties and responsibilities of key personnel whose performance affect the quality control program are also required.

7. **Drawings, Design, Calculations, and Specifications**

   In the manual, include the provisions that will be used in the quality control program to identify the minimum information necessary, in the form of drawings, specifications, or other means, to comply with the applicable code:

   - Describe the procedures that will be applied to ensure that the latest applicable drawings, design calculations, specifications, and instructions are used for construction, assembly, examination, inspection, and testing in the work to be undertaken. If the design and drawing function is subcontracted to a third party, describe the process by which the organization will review and approve those documents before they are released to the production team.
   - If computer calculations will be used in creating the drawings, design, calculations or specifications for the regulated work, the codes regarding boilers, pressure vessels, and refrigeration require that any computer-generated calculations used in regulated work be verified manually before use and that the verification documents or computer files be retained. Include provisions in the manual for this verification and documentation to help ensure the computer program or software used produces acceptable calculations.
   - Identify the person(s) responsible for preparing, reviewing, and approving designs and drawings for regulated work, the person(s) responsible for specifying the materials to be used, and the person(s) responsible for controlling regulated work that will be performed in the manufacturing shop and/or at the field location(s). Identifying the responsible person(s) by their title(s) is acceptable.
   - In case any of the project's approved designs and drawings are revised, include descriptions of the controls that will be applied to ensure obsolete designs and drawings are withdrawn from the manufacturing shop and field location(s) and are replaced with the revised designs and drawings.
   - Describe the controls that will be used to ensure that regulated manufacturing work will be performed only when the original design of regulated equipment has been registered with Technical Safety BC, according to the Regulation and the adopted CSA B51 code requirements.

8. **Material Control**

   Specify and describe the system that will be used for ordering, receiving, and controlling material. This quality

control program element helps to ensure that the correct material (including welding consumables) is procured, inspected after receipt, properly stored, and released for production:

- Define the controls that will be used for maintaining material traceability until project completion, including heat numbers and colour code applications.
- Include provisions to ensure that the received materials have the required material certifications, material test reports, or certificates of conformity to meet the applicable code requirements.
- Specify and describe the material control system that will be used to ensure that only the intended material is used when performing regulated manufacturing work, either in shop or in field location(s), under the scope of the licence, and that the material is used according to the specifications of the applicable codes and standards.
- Include provisions for how materials not in compliance with the registered design or the applicable code will be handled, as well as provisions to ensure the substitution of materials is allowed. This includes applicable procedures for the control of substitutions and the designation of the individual who is authorized to approve them with the boiler safety officer's approval.

9. **Installation, Repair, Alteration, or Construction**

   Designate and identify the person(s) responsible for overall quality control program management for the regulated installation, repair, alteration, or construction work. The person(s) to identify in the manual include those responsible for material ordering, receiving, and incoming inspection, those responsible for issuing materials to be used, and those responsible for examining and inspecting regulated work in the shop and field location(s). Include provisions for all required inspections to be performed by a boiler safety officer employed by Technical Safety BC. In addition, include provisions in the manual for liaison with the boiler safety officer and for providing the boiler safety officer with unrestricted access to a controlled copy of the quality control program manual, to all quality control program records, and to all locations within the shop and/or field location(s) where the regulated work is being conducted.

10. **Welding and Brazing Control**

    In the manual, include provisions that the welding and brazing work that will be performed will conform to the requirements of the Act and Regulations, adopted codes, directives, and safety orders:

    - Describe the process that will be used to ensure only individuals who hold a **pressure welder Certificate of Qualification** are assigned to perform pressure welding on a regulated product, that the extent of their work is limited to the pressure welder certificate class that they hold, and that these individuals maintain all applicable qualifications, including their certificates.
    - Describe the measures that will be used to prepare, qualify, and register welding procedure specifications and brazing procedure specifications with Technical Safety BC.
    - Define the measures that will be used to control welding and to ensure that the welding work undertaken is traceable, as is required by the applicable codes – This includes measures for tracking the storage and distribution of welding consumables.
    - Define the measures for removing or inspecting tack welds.
    - Include provision for the boiler safety officer's obligation to require re-qualification of a welder or procedure with just cause.

      In addition, include provisions in the manual for the subcontracting of welding on regulated products to ensure subcontracted welding companies hold valid contractor licences issued by Technical Safety BC and have Technical Safety BC–accepted quality control programs. In the event the organization subcontracts pressure welding, provisions should be in place, and be described within the manual, to clarify the use of the subcontractor's quality control program or the main contractor's quality control

program for pressure welding controls and documentation.

11. **Non-Destructive Examination**

    Specify and describe the controls and measures that will be used to ensure performed or subcontracted non-destructive examination occurs according to the applicable code requirements. The described controls and measures must address the requirement that personnel qualified in accordance with the organization's written practice must complete the non-destructive examinations and that the written practice must contain non-destructive examination procedures that previously have been demonstrated to be effective, in accordance with code requirements.

12. **Heat Treatment**

    Include provisions in the manual for the control of the heat treatments performed or subcontracted by the organization, specify measures to ensure that the heat treatments comply with the applicable codes and standards, and require that records such as heat treatment charts and thermocouple attachment schematics are kept on file and made available to the boiler safety officer.

13. **Examination and Inspection Program**

    Include provisions in the manual to ensure that the inspections and tests required by the Act and Regulations and the applicable codes are undertaken and recorded accordingly:

    - Describe the procedures for the types of inspections and tests performed.
    - Identify the person(s) responsible for the control of the inspection plan.
    - Specify that, before the work starts, the inspection plan be submitted to and reviewed by the boiler safety officer, who will determine the inspection stages, and that the boiler safety officer will be given unrestricted access to all required documentation for the regulated products being installed, repaired, altered, or constructed.
    - Include provisions to ensure that all regulated activities include a submitted declaration and have been inspected by the boiler safety officer before any repair, alteration, or construction reports are presented for acceptance.
    - Detail the procedures for how pressure testing (hydrostatic and pneumatic) will be conducted safely.

14. **Calibration**

    Include provisions in the manual for the calibration of measuring and test equipment. This includes specifying the calibration methods used, the frequency of calibration, and how calibration records will be kept, as well as any other requirements stipulated by the Act and Regulations and the applicable codes.

15. **Correction of Non-Compliances**

    Specify and describe the system that will be used for correcting non-compliances and any other condition that does not comply with the requirements of the Act and Regulations, design, specifications, and applicable codes, and stipulate that non-compliances must be corrected or eliminated for the completed component to be considered compliant. In the manual, specify how all non-compliances and their disposition will be documented, as well as that the person(s) responsible will inform the boiler safety officer of non-compliant conditions for review and acceptance.

16. **Record Retention**

    Describe the measures that will be enacted as part of the quality control program to ensure that records related to the project are maintained as required by the Act and Regulations and the applicable codes.

17. **Exhibits**

    Include samples of all forms referenced within the manual, with the company name and logo noted therein. The manual's text should also cite the referenced forms' titles in a way that is consistent with how they appear in

the exhibit samples.

Note: You do not need to include in the exhibits any Technical Safety BC forms that are referenced within the manual.

Appendix B. Quality Control Program Manual Elements

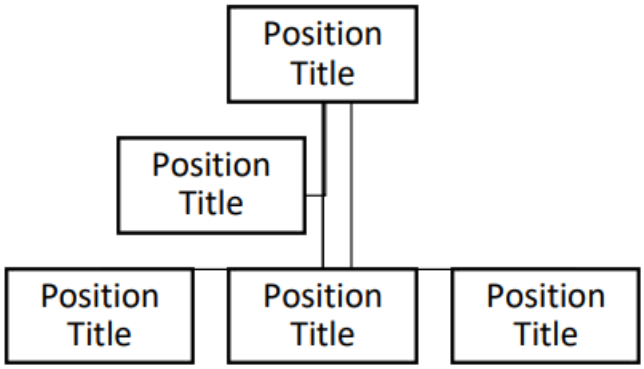
The following table and information expand on the information provided in Appendix A and are meant to be used by contractors to develop and review their quality control program and its manual, as needed. The information included in the table may or may not be applicable, as determined by the contractor's scope of work. Depending on the complexity of the regulated work to be performed and the specific code requirements, additional information beyond the contents of this table may be required. This table should be used and submitted with the quality control program manual to Technical Safety BC to facilitate the review of the manual.

- Organization name:
- Date:

Section	Quality control program manual elements, per section		Applicability (Yes, No, N/A)	Manual reference
1. Cover page	1.1	Organization name, logo (if applicable), and physical address		
	1.2	Class of contractor license, and contractor license number issued by Technical Safety BC		
	1.3	Date of manual, its edition number, revision number, and whether the copy in question is a controlled or uncontrolled copy		
	1.4	Summary or preview of the contractor license scope including location(s) work is to be performed		
2. Scope	2.1	Contractor license class referenced; statement that regulated work will be performed according to the described scope of work		
	2.2	Detailed scope of the regulated installation, repair, alteration, or construction work to be performed by organization		
	2.3	Applicable code sections and standards used for the regulated work either referenced or listed Per Section 4 of the Power Engineers, Boiler, Pressure Vessel, and Refrigeration Safety Regulation, the adopted codes and standards are listed under the schedule.		
	2.4	Provisions to ensure regulated work outside the scope of contractor license or capability of contractor will not be performed, and how the organization will comply with any license terms or conditions		
	2.5	Identification of any activities that will or may be subcontracted such as design, drawings, pressure welding, non-destructive examination, and heat treatment		

Section	Quality control program manual elements, per section		Applicability (Yes, No, N/A)	Manual reference
	2.6	Identification of where regulated work is to take place and how the quality control program will be implemented in a shop or at a field location(s)		
3. Statement of authority and responsibility	3.1	Statement indicating the authority and responsibility of those in charge of the quality control program to comply with the Safety Standards Act and Regulations		
	3.2	Appointment and identification of a company representative or position within the company with sufficient and well-defined responsibility, authority, and freedom to identify non-compliances and to take corrective action, including stopping work if needed		
	3.3	Appointment and identification of a company representative or position within the company responsible for the development, understanding, review, and acceptance of the quality control program		
	3.4	Confirmation, in writing, of management's full support of those responsible for implementing the quality control program		
	3.5	Statement of Authority and Responsibility signed by the highest authority listed on the organization chart		
4. Tables of contents, revision history, and defined terms	4.1	Table of contents listing the sections and exhibits of the manual, as well as the pages, numbers, and revision levels for each section and exhibit		
	4.2	Revision history table or other means that explains any changes made to the quality control manual		
	4.3	Space for contractor approval of quality control program manual: name, signature, and date		
	4.4	Space for Technical Safety BC acceptance of the quality control program manual: and authorized safety officer's name, signature, and the date		
	4.5	Glossary defining all abbreviations used in the manual, including titles of personnel, control documents, organizations, codes, standards, Act and Regulations, as well as any term needing definition		
5. Manual control	5.1	Identification of the person(s) responsible for controlling the quality control program manual, including the submission of its revisions to Technical Safety BC using applicable submission options available on our website, as required		

Section	Quality control program manual elements, per section		Applicability (Yes, No, N/A)	Manual reference
	5.2	Description of controls that will be used to prepare, revise, distribute, and implement the manual in the shop and at a field location(s)		
	5.3	Description of how the manual will be revised (by page, paragraph, or section, etc.), how revisions will be highlighted within the manual, and how controlled copies of the manual will be kept current		
	5.4	Provision for the submission of manual revisions to Technical Safety BC for acceptance before implementation		
	5.5	Provisions for when and how the manual will be reviewed and kept up to date to ensure the manual accurately reflects the requirements of the Act and Regulations, adopted codes, standards, safety orders, directives, and information bulletins. **Note:** The Safety Standards Act, Section 24(3)(a), and Technical Safety BC Directive: Boiler, Pressure Vessel & Refrigerator Contractor Licensing requires quality control programs must be reviewed and updated at least annually before license renewal.		
	5.6	A statement that uses of uncontrolled copies of the manual should be for informational purposes only		
	5.7	Exhibit: A list of those who have been distributed a controlled copy of the manual		

6. Organization chart	6.1	A chart showing the reporting relationships and lines of communication between management, engineering, purchasing, manufacturing, production, field work, inspection, and quality control roles, as applicable. The chart should also show the lines of communication with subcontractors, as applicable. Example of organization chart: 		

Section	Quality control program manual elements, per section		Applicability (Yes, No, N/A)	Manual reference
		Note: Personnel names need not be included. If names are specified, changes in personnel may require revisions to the manual.		
	6.2	Brief explanations of the duties and responsibilities of key personnel whose performance affects the quality control program		
	6.3	A note, if applicable, that states personnel may hold more than one title		
7. Drawings, designs, calculations, and specifications	7.1	Provisions to identify the minimum information necessary to comply with the applicable code(s) of construction in the form of drawings, specifications, or other means.		
	7.2	Procedures to ensure that the latest applicable drawings, design calculations, specifications, and instructions are used for installation, repair, alteration, or construction work, including examination, inspection, and testing of the regulated work.		
	7.3	Provisions to ensure that any computer program used for preparing calculations or conducting analysis meets the minimum requirements of code.		
	7.4	Description of the mechanism that will be used to review and approve subcontracted (third-party) design and drawing documents before they are released to the production team.		
	7.5	Identification of the person(s) responsible for preparing, reviewing, and approving the design and drawings for regulated work.		
	7.6	Identification of the person(s) responsible for specifying which materials will be used for the regulated work		
	7.7	Description of the controls to be applied if design drawings are revised and of the measures that will be used to ensure obsolete drawings are withdrawn from shop and field location(s) and replaced with revised design drawings.		
	7.8	Provisions to ensure that regulated work will be performed only if the original design and the altered design of regulated equipment have been registered with Technical Safety BC, per Section 82 and Section 84 of the Regulation, as applicable		
	7.9	Provision for the completion and submission of designs for registration with Technical Safety BC, when applicable		

Section	Quality control program manual elements, per section		Applicability (Yes, No, N/A)	Manual reference
		This applies to all alterations to pressure piping including pressure fittings, and construction of new pressure piping (exceeding 3” NPS). See the Technical Safety BC requirements at Boilers and pressure vessels design registration for more information.		
	7.10	Description of field controls for regulated work that will be performed in the field, as applicable		
8. Material control	8.1	Identification of the system that will be used for ordering, receiving, and controlling material to ensure that the correct material (including welding consumables) is procured, inspected after receipt, safely stored, and released for production		
	8.2	Identification of the system that will be used for controlling materials to ensure that only the intended materials are used when performing regulated work and the materials used meet the specifications of the applicable codes and standards		
	8.3	Provisions that all received materials will have the required material certifications, material test reports, or certificates of conformity that satisfy the applicable code requirements		
	8.4	Provision for the verification and documentation of materials and their material certifications, material test reports, or certificates of conformity		
	8.5	Descriptions of the measures established for the proper identification, handling, and storage of materials		
	8.6	Controls to maintain material traceability until project completion, including heat number, colour code application, tabulation, as-built drawings, etc., and identification of the system that will be used to track the controls and materials		
	8.7	Provisions for the transfer of material identifications when material is cut into two or more pieces		
	8.8	Provisions for handling materials that are not in compliance with the registered design or the applicable code		
	8.9	Provision for material certifications to be made available to the boiler safety officer upon request		
	8.10	Provision for materials found to be in non-conformance during receiving inspections		

Section	Quality control program manual elements, per section		Applicability (Yes, No, N/A)	Manual reference
	8.11	Description of field controls for regulated work that will be performed in the field, as applicable		
	8.12	Exhibit: Material receiving report		
9. Installation, repair, alteration, or construction	9.1	Description of the scope and type of installation, repair, alteration, or construction work the organization is capable of and intends to conduct, including the identification of the applicable codes		
	9.2	Identification of who is responsible for all overall quality control program management with regards to the regulated installation, repair, alteration, or construction work		
	9.3	Identification of the person(s) responsible for material ordering, receiving, and incoming inspection, of those responsible for issuance of materials to be used, and of those responsible for examining and inspecting the shop and field location(s)		
	9.4	Provisions for all required regulatory inspections to be performed by a boiler safety officer employed by Technical Safety BC Notification should be given using the Technical Safety BC Boiler and Refrigeration Inspection Declaration Form (Form 1449).		
	9.5	Provision for informing Technical Safety BC, in advance, when the regulated work will start. This is required under Section 61(1) and Section 86 of the Regulation.		
	9.6	Provision for the strict use of the applicable code of installation, repair, alteration, or construction, as determined by the applicable regulated work		
	9.7	If applicable, submission of the required design for registration with Technical Safety BC. This is required under Section 82 of the Regulation. See the Technical Safety BC requirements at Boilers and pressure vessels design registration for more information.		
	9.8	Provision for using applicable installation codes and equipment manufacturer requirements for proper structural supporting, assuring clearance, access requirements, and measures to ensure requirements for expansion, piping, valves, controls with over-pressure protection		

Section	Quality control program manual elements, per section		Applicability (Yes, No, N/A)	Manual reference
	9.9	Detailed description of the required documentation package(s) that will be collated during installation, repair, alteration, or construction work, including the applicable data reports		
	9.10	Provisions for liaison with the boiler safety officer, including providing access to a controlled copy of the quality control program, to all quality control program records, and to locations within the shop or field location(s) where the regulated work will be completed		
10. Welding and brazing control	10.1	Identification of the person(s) responsible for: · preparing, revising, and submitting welding procedure specifications (WPS) and brazing procedure specifications (BPS) to Technical Safety BC · conducting procedure qualification tests under the direct supervision of the licensee and for recording the results on the procedure qualification record (PQR) · certifying procedures and verifying performance qualification records · selecting the WPS and BPS to be registered and used for regulated work · assigning and ensuring that each welder is qualified for each welding process to be used; and · instructing, supervising, and assigning welders or brazers for regulated work		
	10.2	Description of the measures that will be used to prepare, qualify, and register welding and brazing procedure specifications with Technical Safety BC. This element is a requirement under Section 78(2) of the Regulation. Register a design with Technical Safety BC: Boilers and pressure vessels design registration.		

	10.3	Identification of any references or resources for the development and preparation of WPS, BPS, and PQR Use the formats suggested in the ASME code, Section IX: · Form QB-482: Suggested format for a brazing procedure specification (BPS) · Form QB-483: Suggested format for a brazing procedure qualification record (PQR) · Form QW-482: Suggested format for welding procedure specifications (WPS) · Form QW-483: Suggested format for procedure qualification records (PQR)		

Section	**Quality control program manual elements, per section**		**Applicability** (Yes, No, N/A)	**Manual reference**
	10.4	Controls listed for completing revision(s) of the registered WPS or BPS and resubmittal to Technical Safety BC		
	10.5	Provisions to ensure that only individuals who hold a pressure welder Certificate of Qualification are assigned to perform pressure welding on a regulated product. See Technical Safety BC's requirements regarding pressure welder certificationhttps://**www.technicalsafetybc.ca/certification/p** ressure-welder. This is a requirement under Section 5(3) of the Regulation		
	10.6	Provisions to ensure that the extent of the work of individuals holding welder certificates of qualification is limited to the certificate class that they hold. Note: Class "A", Class "IT", and Class "R" – only needs to be specified if class "IT" and/or "R" will be utilized by the organization		
	10.7	Provisions for a pressure welder's Certificate of Qualification and other applicable qualifications to be maintained and renewed as required		

	10.8	Provisions for welding performance qualifications to be conducted by a Recognized Test Administrator (RTA). The welding examiner at the RTA will complete and certify the required ASME form(s) and enter qualification(s) into the welder's logbook. See the Technical Safety BC Directive: Qualification Requirements for Pressure Welders for information.		
	10.9	Provisions to ensure that the continuity of welder and brazier qualifications for each welding and brazing process used are maintained. Performance qualifications may need to be updated or retested if process not used within six (6) months.		
	10.10	Provision to requalify a welder a change occurs in any of the essential variables listed for each welding process		
	10.11	Provisions to ensure that each welder and welding operator is assigned an identifying number, letter, or symbol which shall be used to identify that individual's work		
	10.12	Provisions for welding traceability as required by the applicable codes. These include but are not limited to; weld maps, drawings, and welder ID stamping.		

Section	**Quality control program manual elements, per section**		**Applicability** (Yes, No, N/A)	**Manual reference**
	10.13	Reference to the use of ASME's Form QW-484A: Suggested format A for welder performance qualifications (WPQ) and Form QW-484B: Suggested format B for welding operator performance qualifications (WOPQ) for the qualification of welding operators **Note:** The welding examiner at the RTA is responsible for completing these forms.		
	10.14	If applicable, reference to the use of ASME's Form QB-484: Suggested format for a brazer/brazing operator performance qualification (BPQ) for the qualification of braziers Note: The welding examiner at the RTA is responsible for completing these forms.		
	10.15	Measures established for the removal and inspection of tack welds not completed by a qualified welder		

	10.16	Provisions to ensure that, if subcontracted: Welding completed on regulated equipment is done by a co mpany holding a Technical Safety BC issued license that in cludes pressure welding within the scope of their accepted quality control program		
	10.17	Measures established for the storage, distribution, and retu rn of welding consumables		
	10.18	Provisions for covered welding electrodes, such as low hyd rogen and stainless steel, to be stored in accordance with t he welding material manufacturer's recommendations		
	10.19	Measures to control welding in the field, when applicable		
	10.20	Exhibit: welder continuity log		
11. Non-d estructiv e examin ation (ND E)	11.1	Controls and measures to ensure performed or subcontract ed non-destructive examination meets the requirements of the applicable code(s) and is completed by qualified personnel		
	11.2	If work will be subcontracted, identification of the subcontra ctor items to be verified by the license holder, retained with the job file, and presented to the boiler safety officer		
	11.3	Identification of the person(s) responsible for determining if non-destructive examination is required per the applicable code		

Section	Quality control program manual elements, per section		Applicability (Yes, No, N/A)	Manual reference
	11.4	Indication of whether non-destructive examination will be performed in-house, subcontracted, or both. **Note:** If performed in-house, all code requirements shall be covered within the quality control program.		
	11.5	Provision for identifying the appropriate non-destructive examination procedures and written practices that are applicable to the scope of code and regulated work, and for ensuring that they have been demonstrated to meet the requirements of the applicable code		
	11.6	Provision to ensure or verify that the personnel who will be performing non-destructive examinations are qualified in accordance with Canadian General Standards Board CAN/CGSB-48.9712/ISO 9712 and the applicable code		
	11.7	Provision to ensure non-destructive examinations performed according to written procedures when required by the applicable code		
	11.8	Provision to ensure equipment used for non-destructive examinations has been calibrated		
	11.9	Provision for documentation and records of non- destructive examinations to be prepared as specified by the applicable code		
	11.10	Exhibit: NDE Organization appointment letter		
12. Heat treatment	12.1	Provisions for control of the heat treatments performed or subcontracted by the organization		
	12.2	If work to be subcontracted, identification of the subcontractor items that will be verified by the license holder, retained with job file, and presented to the boiler safety officer		
	12.3	Written procedures and instructions specifying the heat treatment requirements specified by the applicable code(s)		
	12.4	Description of the measures in place to ensure that the heat treatment work, charts, and records comply with the applicable codes and standards		
	12.5	Provision to ensure records such as heat treatment chart and thermocouple attachment schematic are kept on file and made available to the boiler safety officer on request		

Section	Quality control program manual elements, per section		Applicability (Yes, No, N/A)	Manual reference
	12.6	Provisions to identify whether the heat treatment equipment used requires calibration and, if it does, what controls are in place to assure compliance		
	12.7	Exhibit: Heat treatment instruction form		
13. Examination and inspection program	13.1	Provisions to ensure inspection and testing comply with the requirements of the Act and Regulations and the applicable codes are recorded accordingly		
	13.2	Procedures specified for the types of inspections and tests performed		
	13.3	Identification of the person(s) responsible for: · controlling the inspection and test plan · notifying the boiler safety officer when required · specifying the pressure test requirements; and · monitoring pressure tests, performing examinations, and documenting results		
	13.4	Provision for the presentation of the inspection and test plan, if applicable, to the boiler safety officer before the work starts to allow for review and the designation of inspection and hold points		
	13.5	Provision for notifying the boiler safety officer in advance of reaching designated inspection and test plan hold points		
	13.6	Details, controls, and procedures for how pressure testing (hydro and pneumatic) will be conducted safely, including the calibrated gauges and the dial range that are to be used. **Note:** The requirements for pneumatic pressure testing procedures with stored energy values greater or lower than 1677 kJ can be found at Technical Safety BC's pneumatic testing design registration page.		
	13.7	Provisions to ensure final inspections are performed and all Act, Regulation, and applicable codes requirements have been met		
	13.8	Provisions to ensure all installation, repair, alteration, or construction activities include a submitted declaration and have been inspected by the boiler safety officer before any repair, alteration, or construction reports are presented for acceptance.		
	13.9	Measures established to control field activities, as applicable.		

Section	Quality control program manual elements, per section		Applicability (Yes, No, N/A)	Manual reference
	13.10	Exhibit: Inspection and test plan (ITP), checklist, traveler, or process sheets The form(s) must provide for the contractor's, owner's inspector, and boiler safety officer's signoffs and note dates when the examinations were performed		
	13.11	Exhibit: Pressure test report(s)		
	13.12	Exhibit: Pressure testing procedure		
	13.13	Exhibit: Visual inspection procedure This applies only if code required visual inspection will be completed by the licensee.		
14. Calibration	14.1	Provisions for the calibration of measuring and test equipment		
	14.2	Description of the method to be used for identifying equipment requiring calibration, as well as of the method for indicating the status or due date of calibration (e.g., with stickers, tags, etc.)		
	14.3	Description of the method to be used for maintaining and tracking calibration records		
	14.4	Provision to ensure that the gauges used for pressure testing are calibrated and that the calibration frequency is identified and recorded		
	14.5	Provision for identifying and handling non-conforming equipment		
	14.6	Descriptions of any other applicable requirements stipulated by the applicable codes		
	14.7	Provision for calibration records to be made available to the boiler safety officer when required		
	14.8	Exhibit: List of measuring and test equipment that requires calibration, with information such as identifier and calibration status, dates, frequency, etc.		
15. Correction of non-compliances	15.1	System specified for correcting non-compliances and any condition that does not comply with the requirements of the Act and Regulations, design, specifications, and applicable codes		
	15.2	Identification of the person(s) responsible for the resolution of non-compliances		

Section	Quality control program manual elements, per section		Applicability (Yes, No, N/A)	Manual reference
	15.3	Provision for non-compliances to be corrected or eliminated before the completed component can be considered compliant		
	15.4	Provisions for the documentation of non-compliances and their disposition		
	15.5	Provision for a Technical Safety BC boiler safety officer to be informed of non-compliant conditions		
	15.6	Exhibit: An example of non-compliance record form to be used to document a non-compliance and its disposition		
	15.7	Exhibit: A sample facsimile of non-compliance identification or “hold” tag and label		
16. Record etention	16.1	Measures to ensure that the records are maintained as required by the Act and Regulation, and applicable codes		
	16.2	Identification of records that may be required to be maintained		
	16.3	Provision to ensure that all required records are maintained for at least seven (7) years. Section 72(1)(a) of the Regulation notes this as a requirement.		
17. Exhibits	17.1	Samples of forms or facsimiles referenced within the manual contain the company name and logo, and the titles are consistent with those of the forms referenced in the text of the manual. **Note:** Technical Safety BC forms and forms controlled by other organizations referenced within the manual, need not be included as manual exhibits.		
	17.2	Sample forms in this section identified as “SAMPLE” or “EXHIBIT”		
	17.3	Forms or facsimiles, when referenced throughout the manual, include the title and exhibit or sample number for each referenced in a table of contents		

Section	Quality control program manual elements, per section	Applicability (Yes, No, N/A)	Manual reference
Additional notes			

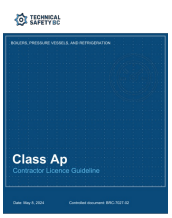
Technical Safety BC is an independent, self-funded organization mandated to oversee the safe installation and operation of technical systems and equipment. In addition to issuing permits, licences, and certificates, we work with industry to reduce safety risks through assessment, education and outreach, enforcement, and research.

- **Toll-free:** 1 866 566 7233
- **Phone**: 778 396 2000
- **Fax**: 778 396 2064
- Suite 600 – 2889 East 12th Avenue, Vancouver, BC V5M 4T5
- www.technicalsafetybc.ca

FAQ

Q: What happens if my quality control program is not accepted?
A: If your quality control program is not accepted, you may need to make revisions and resubmit for review.

Documents / Resources

	TECHNICAL SAFETY BC Class Ap Contractor Licence [pdf] User Guide BRC-7027-02, Class Ap Contractor Licence, Class Ap, Contractor Licence, Licence

References

- Technical Safety BC
- Safety Standards Act
- Safety Standards Act
- Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation
- Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation
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- Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation
- Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation
- Laws Publications - Government
- Pressure Welder Certification | TSBC
- Pressure Welder Certification | TSBC
- Canadian General Standards Board Catalogue - CGSB - PSPC - Canada.ca
- User Manual