



ACCREDITATION OF OWNER/USER SELF-INSPECTION REPAIR PROGRAM

TSSA GUIDE FOR REVIEW TEAMS

The Technical Standards and Safety Authority
Boilers and Pressure Vessels Safety Division
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CANADA

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INTRODUCTION

This guide is prepared for the use of TSSA non-nuclear survey team leaders, members and applicants for TSSA Certificates of Authorization. It is not intended to replace or interpret the requirements of CSA B-51 Standard or the National Board Inspection Code (NBIC) Requirements. The checklist does not list all of the detailed requirements of CSA B-51 and NBIC referenced, but rather lists the highlights that the applicant is required to include in the written Quality Control (QC) Manual.

In addition, to assist the TSSA survey team, this guide is provided to applicants for TSSA Certificates of Authorization for their use in identifying and verifying the paragraph(s) where their QC Manual addresses all applicable control requirements of the CSA Standards, NBIC and ASME Codes. The QC Manual must contain the description of the controls necessary for implementing the QC Program but, it is not required to contain all of the programmatic requirements which will be found in the QC Program, such as written procedures.

The guide is based upon CSA B-51 and the NBIC requirements. The guide is subject to revision based on changes made to CSA B-51, NBIC and feedback from users.

A survey must cover a QC Manual and its implementation. It is recognized that the scope of work, QC Manual and Manual implementation will vary from one applicant to another, therefore, only those activities to be performed under the scope of an applicant's TSSA Certificate of Authorization are required to be addressed in the QC Manual. TSSA survey teams are advised that this guide may not outline all possible aspects of each survey. The QC Manual need not follow the format of this guide. *Program implementation shall consist of a repair job package prepared in accordance with the QC Manual. It shall demonstrate all elements of the program including non-destructive examination and heat treatment. This may be on work in progress or on a demonstration item prepared specially for the survey.*

Questions of possible need for Interpretation raised by survey team members or the applicant shall be submitted to the TSSA Chief Inspector for an answer.

HOW TO USE THIS GUIDE

Review each checklist item in the checklist against the QC Manual and:

- 1) Check (√) the applicable column - "Yes", "No" or "N/A" (Not Applicable)
- 2) Note the paragraph number in the QC Program Manual which covers the subject addressed in the column labelled "Quality Program Reference".

Submit one copy of the completed checklist with one controlled copy of the QC Manual to TSSA Head Office for review, at least one month prior to the scheduled implementation review date.



Owner/User Self-Inspection Repair Program Checklist

Company Name: _____
 TSSA Auditor: _____ Date(s): _____

ITEM No.	SECTION	MANUAL REFERENCE	YES	NO	N/A
1.0	TITLE PAGE				
1.1	Company name & Plant location.				
1.2	Approval & acceptance signatures including dates.				
1.3	Controlled & uncontrolled Number.				
1.4	Issue Number & date.				
2.0	CONTENTS PAGE				
2.1	Contents Page to include columns for Section, Title and Revision Level, including exhibits.				
3.0	SCOPE OF WORK				
3.1	Indicate scope and type of repairs that the organization intends to carry out.				
3.2	State location of <i>site for</i> repairs.				
3.3	State special processes such as welding, NDE and postweld heat treatment.				
4.0	STATEMENT OF AUTHORITY & RESPONSIBILITY				
4.1	Statement appears on a dated company letterhead signed by an officer of the company and providing the following:				
4.2	A statement that all repairs carried out by the organization shall comply with the applicable Ontario Boilers & Pressure Vessels Act and Regulations, Codes, Standards and the applicable sections of NBIC.				
4.3	A statement that the requirements of the written Q.C. Manual are to be followed.				
4.4	The title of the individual responsible to ensure that the Q.C. Program is followed & who has authority & freedom to carry out this responsibility including stopping of work & resolution of non-conformities.				
4.5	Statement that discrepancies in the implementation of the written QC Manual shall be referred for resolution to a higher authority in the company without negating the Act, applicable Codes and Standards and the QC Manual requirements.				
4.6	Statement that the QC Manual and its implementation has the full support of management.				
4.7	Title of the individual authorized to approve QC Manual revisions and method by which such revisions are to be submitted to TSSA for acceptance before implementation.				

Owner/User Self-Inspection Repair Program Checklist

ITEM No.	SECTION	MANUAL REFERENCE	YES	NO	N/A
4.8	Who is responsible for the qualification of personnel carrying out inspections?				
5.0	MANUAL CONTROL & REVISION				
5.1	Who is responsible for preparation, revision, distribution & implementation of QC Manual?				
5.2	Who is responsible for the review of applicable ASME Code Edition and addenda?				
5.3	How is QC Manual revised & revisions identified?				
5.4	Acceptance of revisions by TSSA prior to implementation.				
5.5	Description of Revision Log including approval and acceptance.				
5.6	Description of how QC Manual & revisions are issued and distributed, including Distribution Log.				
5.7	Use of uncontrolled QC Manuals.				
5.8	Provisions for the Controlled Copy of the QC Manual to be submitted to TSSA prior to being implemented.				
5.9	A glossary of terms is desirable from the standpoint of clarity if abbreviated titles of personnel and control documents are used throughout the QC Manual.				
6.0	ORGANIZATION CHART				
6.1	Titles of key department personnel within the company which perform functions that affect the quality of repairs carried out.				
6.2	Chart indicates the relationship between management, purchasing, repairing, inspection and quality control personnel and shall reflect the actual organization in place.				
6.3	Chart shows access of QC to top management.				
6.4	Titles of personnel are consistent with text of QC Manual.				
7.0	DRAWINGS & SPECIFICATION CONTROL				
7.1	System shall provide for maintaining up to date drawings, specifications for repair, inspection and testing.				
7.2	Maintaining the following Codes & specifications: 1] ASME B&PV Code sections and addendas 2] NBIC (ANSI/NB-23) 3] CSA-B51				
7.3	Title of person responsible for assuring that drawings, specifications for repairs, inspection and testing are up to date.				
7.4	Title of person responsible for preparing & approval of internal company procedures and specifications used for repair, inspection & testing.				

Owner/User Self-Inspection Repair Program Checklist

ITEM No.	SECTION	MANUAL REFERENCE	YES	NO	N/A
7.5	Describe distribution of drawings, procedures and specifications to repair personnel and who is responsible.				
8.0	REPAIR METHODS				
8.1	<i>What is the title of the document that initiates the request to start a repair?</i>				
8.2	<i>Who prepares this document and who approves it?</i>				
8.3	<i>What are the titles of any other departments involved before the work is started on the repair?</i>				
8.4	Who is responsible for the evaluation of a repair, and the repair methods adopted?				
8.5	Who is responsible for the documentation of the repair on the company Report of Welded Repair and maintenance of copies for TSSA review?				
8.6	How are materials checked for compliance to Code and original specifications?				
8.7	Who is responsible for ensuring that an appropriate registered welding procedure is used, and qualified welders employed?				
8.8	Who ensures that NDE technicians are properly qualified?				
8.9	Who is responsible for witness of final testing and sign off of the certification of the repair? Note: Welders must hold a current Welder's Performance Qualification for the appropriate welding process. NDE personnel must be qualified as required by CSA-B51. (CGSB)				
9.0	MATERIAL CONTROL				
9.1	Does system describe the purchasing, receiving, storage and issue of materials (including welding consumables)?				
9.2	<i>Does the system describe the controls for receiving each product form ordered (e.g. pipe, plate, fittings, etc.)?</i>				
9.3	Who is responsible for storage and issuance of material?				
9.4	Provide for received materials to be checked for conformance with the purchase order.				
9.5	How are purchased materials identified and how identity is maintained by QC system?				
9.6	Describe procedures for resolving non-conformities of purchased materials.				
10.0	METHOD OF PERFORMING WORK				
10.1	Describe how checklist(s) are prepared for each repair, describing methods to be used.				
10.2	All steps for the repair shall be defined in the checklist.				

Owner/User Self-Inspection Repair Program Checklist

ITEM No.	SECTION	MANUAL REFERENCE	YES	NO	N/A
10.3	Sign-off at each step by the owner/user Inspector shall be provided.				
10.4	Repair Report prepared and signed off by owner/user representative assigned.				
11.0	WELDING				
11.1	Statement that welding/brazing will be carried out in accordance with ASME Section IX and the applicable Code of Construction.				
11.2	Who is responsible for documenting, updating and issuing welding/brazing procedure and certification of Procedure Qualification records?				
11.3	Who is responsible for completing and certifying welder/brazer performance qualifications annually?				
11.4	Description of how welder/brazer identification numbers are assigned and where information, as to which WPS to be utilized on each weldment is derived.				
11.5	Who is responsible for the control, issuance and return of welding material to assure only proper materials are used?				
12.0	NON-DESTRUCTIVE EXAMINATIONS (NDE)				
12.1	Who is responsible to assure that NDE personnel are qualified to the applicable CGSB requirements?				
12.2	Who is responsible to assure that NDE examinations are performed in accordance with written procedures when required?				
12.3	Who is responsible to ensure that NDE equipment is calibrated?				
12.4	<p>(a) <i>For B31.1 Piping Systems:</i></p> <p style="margin-left: 40px;">(i) <i>Have the requirements or paragraph 136.4 been considered for RT, UT, PT, MT and visual examination?</i></p> <p style="margin-left: 40px;">(ii) <i>Have the mandatory requirements of Table 136.4 been addressed?</i></p> <p style="margin-left: 40px;">(iii) <i>Have the requirements of Table 136.4.1 been addressed (weld imperfections indicated by various types of examination)</i></p> <p>(b) <i>For B31.3 Piping Systems:</i></p> <p style="margin-left: 40px;">(i) <i>Have the requirements of paragraph 341.4 (extent of requirement examination) been addressed in the Manual?</i></p> <p><i>Note: The following qualification of personnel for visual examination shall be addressed:</i></p> <p style="margin-left: 40px;"><i>For B31.1 – Paragraph 136.1 (a) to (e)</i></p> <p style="margin-left: 40px;"><i>For B31.3 – Paragraph 344.2.1</i></p> <p>(c) <i>Provisions exist for identifying the appropriate NDE procedures applicable to the scope of Code work. These provisions assure that:</i></p>				

Owner/User Self-Inspection Repair Program Checklist

ITEM No.	SECTION	MANUAL REFERENCE	YES	NO	N/A
	<ul style="list-style-type: none"> (i) <i>NDE personnel are qualified in accordance with the applicable Code Section requirement;</i> (ii) <i>NDE (UT, RT, MT and PT) examinations are performed in accordance with written procedures when required;</i> (iii) <i>UT reports and RT films, as applicable, are retained in accordance with the applicable Code requirement;</i> (iv) <i>NDE equipment is calibrated;</i> (v) <i>to meet Canadian jurisdictional requirements, does the QC Manual address the requirements for the Qualification and Certification of Non-Destructive Testing Personnel, CAN / CGSB – 48.9712-95</i> 				
13.0	HEAT TREATMENT				
13.1	Statement whether heat treatment is carried out “in-house” or “sub-contracted”.				
13.2	Who is responsible for the approval and acceptance of heat treatment procedures?				
13.3	Who is responsible for the identification and traceability of items being heat treated?				
13.4	Who makes sure calibrated equipment is used?				
13.5	Who is responsible for the acceptance of time/temperature charts?				
14.0	EXAMINATIONS AND TESTS				
14.1	Are examinations on completion of repair defined; signed off? Who by?				
14.2	Who is responsible for the witnessing of hydrostatic/pneumatic tests?				
14.3	Are written procedures available for hydrostatic/pneumatic Testing? Who is responsible for documenting and approving same?				
14.4	Who is responsible to ensure that only calibrated equipment is used to carry out hydrostatic/pneumatic testing?				
15.0	CALIBRATION OF MEASUREMENT & TEST EQUIPMENT				
15.1	System shall describe a scheduled and documented program for the periodic calibration of measuring instruments and pressure gauges.				
15.2	Who is responsible for: <ul style="list-style-type: none"> a) Ensuring that all items are maintained in good condition and are checked for signs of damage etc. before use? b) Removal from service of any such equipment found to be defective, or suspected to be so? c) Ensuring only equipment currently in calibration is used? 				

Owner/User Self-Inspection Repair Program Checklist

ITEM No.	SECTION	MANUAL REFERENCE	YES	NO	N/A
	d) Performing, or arranging for, calibration of measuring and test equipment, the results of which shall be traceable to National Standards? e) Establishing and maintaining a calibration frequency schedule for the type of equipment and its corresponding amount of use?				
15.3	Describe use of equipment identification using label/sticker and specify information.				
15.4	Who maintains Calibration Log and describe information therein?				
15.5	Describe calibration of working pressure gauges and who is responsible.				
15.6	Calibration of master pressure test gauges shall describe: 1] Frequency 2] Method (standard dead weight tester or master gauge) 3] Calibration standards certified and traceable to nationally recognized standards				
15.7	Calibration of vernier calipers, micrometers and calibration blocks: 1] Frequency 2] Method 3] Standards				
15.8	Who is responsible for maintaining all calibration records?				
15.9	When a pressure gauge is found to be out of calibration, is it removed from use until repaired or scrapped?				
16.0	REPAIR INSPECTIONS				
16.1	Provisions for the use of checklists, process sheets, travellers, etc., for listing of examinations and tests to be performed and for the designation of inspection points.				
16.2	Who is responsible for the review and acceptance of material test reports and certificates of compliance?				
16.3	What measures are provided for transferring markings to assure traceability is maintained?				
16.4	What measures are provided to assure that the <i>QC</i> Inspector is informed of approaching inspection points?				
16.5	Provision of a space for "sign-offs" at each operation to verify that each operation has been properly performed.				
16.6	Who is responsible for maintaining all repair records?				
16.7	<i>How are repairs identified? Metal tag with job and date of repair for instance?</i>				
17.0	NON-CONFORMING ITEMS				
17.1	Definition of non-conformity.				
17.2	Describe the identification, documentation, evaluation,				

Owner/User Self-Inspection Repair Program Checklist

ITEM No.	SECTION	MANUAL REFERENCE	YES	NO	N/A
	segregation, resolution and disposition of nonconformities and who is responsible.				
17.3	Describe use of hold, accept and reject tags.				
17.4	Include sample Non-Conformance Report.				
18.0	TRAINING & QUALIFICATION OF PERSONNEL				
18.1	Who is responsible to ensure that personnel engaged in repairs are knowledgeable and qualified within the scope of the repairs to be conducted?				
18.2	Repair organization shall establish a documented in-house training program, and as a minimum shall consist of the following: 1] Applicable ASME Code & requirements of QC Manual 2] Responsibilities within the QC Manual 3] Knowledge of the technical aspects and skills for the applicable position held				
18.3	Does the program include API 510 Authorized Inspector or National Board Owner/User Commission qualifications?				
18.4	Describe the method of evaluating training effectiveness.				
18.5	Does repair organization establish minimum qualification requirements for personnel engaged in repair.				
18.6	Annual review of qualified personnel should include: 1] Training records. 2] Documented evidence of work performed. 3] Monitoring job performance. 4] Review should be documented.				
18.7	Who is responsible for maintaining training and personnel qualification records?				
19.0	REPORTING				
19.1	Is a description of the process used to take necessary action if an unsafe condition is encountered and resolve conflicts by referral to higher authority in the organization?				
20.0	CONTROL OF CONTRACTED SERVICES				
20.1	Describe how contracted services such as NDE, welding, etc., are controlled (if applicable).				
20.2	How are qualifications and knowledge assessed?				
20.3	Who defines owner/user requirements?				
20.4	How are requirements and personnel documented?				
21.0	RECORDS				
21.1	Is each repair documented on a <i>TSSA Owner/User</i> Repair Report? Who is responsible for: 1] Preparing and certifying the report? 2] Maintaining records of all repairs?				

Owner/User Self-Inspection Repair Program Checklist

ITEM No.	SECTION	MANUAL REFERENCE	YES	NO	N/A
	3] Making reports available to TSSA for audit?				
21.2	Are manufacturer's partial data reports securely attached to repair reports where applicable?				
21.3	Are Repair Reports numbered sequentially and maintained on file for audit?				
21.4	Are all repair reports retained by the Certificate Holder for the lifetime of the boiler, pressure vessel or piping system?				
22.0	EXHIBITS				
22.1	Forms used in the quality system shall be included in the manual with a written description. Forms exhibited should be marked "SAMPLE" and <u>completed</u> in a manner typical of actual repair procedures.				
22.2	A sample Repair Report showing company name is MANDATORY!				

Review Demonstration

Note: A demonstration or implementation of the QC System during the joint review should include the administrative functions to support the QC System and the manufacturing, fabrication and testing of product necessary to indicate knowledge and ability to produce the component/parts covered by the Scope of the system.

The demonstration may be conducted on in-process work, a mock-up to current Code rules, or combination thereof, and a review of past job documentation. Where Code work is in progress, the demonstration shall include the administrative and construction functions for the products and orders which are being processed to meet Code requirements.

ADD COMPANY LETTERHEAD IN THIS SPACE

APPENDIX 1

O.I.N. 5.

OWNER/USER
SELF-INSPECTION REPAIR REPORT

Report #

Note: This report shall be completed and signed by the person responsible, in whole or in part, for the repair of the item and kept on file for audit by TSSA

1. Work done by: _____

2. Owner: _____

3. Location of Installation: _____

4. Unit Description: _____ Manufacturer Name: _____

5. Serial No: _____ National Board No.: _____ CRN No.: _____ Year built: _____

6. Maximum Allowable Shell or Piping System Pressure: _____ psi at a temperature of _____ °F

Maximum Allowable Vessel Tube or Jacket Pressure: _____ psi at a temperature of _____ °F

7. ASME Code Section: _____ NBIC Edition & Addenda: _____ Htg. Surface: _____ sq.ft.

Piping or Shell Diameter or Width: _____ ins. X Length: _____ ins. Safety Valve Setting: _____ psi

Repair Materials used: (size, specification, grade) _____

8. Description of Defects: _____

9. Description of Repair (Draw sketch on back page) _____

O.I.N. 5.

OWNER/USER SELF-INSPECTION REPAIR REPORT
(Back)

Report No.

9. (cont.) Sketch showing repair defects

10. Radiography: _____

11. Other N.D.E.: _____

12. Postweld Heat Treatment: _____

13. Hydrostatic Test Pressure *for Piping System* or Shell: _____ psi Vessel Tubes or Jacket: _____ psi

14. Welding Procedure(s): Provincial registration No.(s): _____

15. Welders [Name(s)]: _____ Symbols: _____

Remarks: Attached are Manufacturer's Partial Data Reports properly identified and signed by Authorized inspectors for the following items of this report:

OWNER/USER CERTIFICATION

I _____ the undersigned certify that the statements made in this report are correct and accurate and that all design, material, construction, inspection and workmanship on this unit conforms to the requirements of Ontario's Boilers and Pressure Vessels Act, Regulations, CSA-B51 Code and all other applicable Codes and/or Standards.

TSSA Certificate of Authorization No: _____ Expires on: _____

Signature: _____ Title: _____ Date: _____

Owner/User Name: _____

Owner/User Address: _____