



# Guideline

## For Companies Requesting a TSSA Certificate of Authorization for Owner/User Self Inspection

Technical Standards &  
Safety Authority  
345 Carlingview Drive  
Toronto, Ontario  
Canada M9W 6N9  
[www.tssa.org](http://www.tssa.org)

### 1.0 Scope of Document

- 1.1 Owner-User Self-Inspection Organization may authorize and accept repairs only on pressure-retaining items owned or used by the respective organization. Prior to the issuance or renewal of a TSSA Certificate of Authorization for Owner/User Self-Inspection of Repairs, the Organization, its written Quality Program, and its facilities are subject to review and implementation verification of its Quality Program by the TSSA. The Organization shall fully demonstrate the implementation of the Quality Program.
- 1.2 This includes repairs performed by the Owner/User holding a valid TSSA Certificate of Authorization for repairs, or by other qualified Organizations holding a valid National Board or TSSA Certificate of Authorization for repairs with the appropriate scope, who perform work on pressure retaining items owned/operated by the Owner/User.
- 1.3 A description of the process for performing these inspections, including the interface with the TSSA, must be included in the Quality Program.
- 1.4 When an Owner/User has multiple facilities at different locations, the Organization must submit a separate application for each facility.
- 1.5 Owner/User Organizations shall be accredited by TSSA to perform self-inspection of repairs without the acceptance of a TSSA Inspector or Insurer pursuant to the provisions set forth below.

#### **Owner/User Inspections for Subcontracted Repairs:**

Qualified Owner/User Inspectors may provide inspections at any location where the repairs are being performed on their Pressure Retaining Items. The Qualified Owner/User Inspector shall verify that the subcontractor holds a valid TSSA or National Board "Repair Certification of Authorization" for the scope applicable to the repair.

For new fabricated pipe spools used for the repair replacement in the piping system, the Owner/User Inspector may perform inspections at the location of Manufacturer. If the Owner/User Inspectors does not perform the Inspection, the inspection shall be completed by a TSSA Inspector or Qualified Person under the TSSA "Alternate Piping Program".

**Note:** Pipe spools fabricated that are not replacement spools do not fall under the Owner/User Self Inspection program.



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### 2.0 Certificates and Scope of Accreditation

- 2.1 The Certificate of Authorization shall identify the facility location for which accreditation is granted. This is the location that controls the Owner/User Inspectors and inspections of repairs.
- 2.2 Certificates of Authorization are issued for a 3-year period. TSSA may, at its discretion, limit or extend the scope of repairs.
- 2.3 The Certificate of Authorization remains the property of TSSA and shall be returned:
  - At any time that TSSA may so request,
  - At the time the applicant discontinues the work covered by the certificate scope, or,
  - At the time the Certificate expires if it is not renewed.
- 2.4 TSSA may audit the program at any time during the period for which a Certificate is in force. Any associated costs for the audit shall be paid by the Certificate Holder.
- 2.5 TSSA may, at any time, make rules concerning the issuance and use of the Certificate as deemed appropriate, and all such rules shall immediately become binding upon each holder of the TSSA Owner/User Self-Inspection of Repairs Certificate of Authorization.

### 3.0 Prerequisite for Accreditation

- 3.1 Before an applicant can qualify to perform specified Owner/User repair inspections without the presence and acceptance of the TSSA Inspector, or the Insurer, the Organization shall:
  - a) Demonstrate that the plant is a continuous processing plant operating 24 hours a day, 7 days a week, for 12 months per year. Plants that are not in continuous operation for the full year do not qualify for the TSSA Owner/User Self-Inspection of Repairs Certificate of Authorization,
  - b) Own or use pressure retaining items regulated under the Technical Standards and Safety Act, 2000, Ontario Regulation 220/01 Boilers & Pressure Vessels,



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- c) Have a documented Quality Program that supports the repair and inspection process,
- d) Employ two or more qualified and certified\* inspection staff (see (j) below) who have no responsibility for production, and one of whom is appointed as a Supervisor or Technical Manager in accordance with National Board NB-371 Accreditation of Owner-User Inspection Organizations,
- e) Employ qualified and certified inspection staff that are able to demonstrate knowledge of the applicable Codes and Standards, welding, brazing, repair practices, and non-destructive examination procedures,
- f) Meet the requirements of the Technical Standards and Safety Act, 2000, Ontario Regulation 220/01 Boilers & Pressure Vessels,
- g) Have its inspection program and facilities audited by TSSA,
- h) Have an organizational structure and inspection program that supports the repair inspection process,
- i) Have a current Edition of the National Board Inspection Code NB-23 Part 3, CSA B51, and the applicable ASME Codes.

\*Certified inspection staff as used in this document means certified by the Owner/User Organization. This certification shall be by a company official and documented on a company letterhead.

#### **4.0 Obtaining or Renewing a TSSA Certificate of Authorization (COA)**

- 4.1 Prior to the issuance or renewal of the TSSA Owner/User Self-Inspection of Repairs Certificate of Authorization, the Organization and its facilities are subject to an audit of its Quality Program by the TSSA. The implementation of the Quality Program must be satisfactorily demonstrated by the Organization using a mock-up or an actual repair job, utilizing a certified repair organization that demonstrates all repair inspection program controls. Non-destructive examination shall be included in the demonstration. TSSA reserves the right to cancel, refuse to issue, or refuse to renew a Certificate of Authorization.



## Guideline

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Safety Authority  
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- 4.2 Organizations wishing to complete repairs of pressure retaining items with their own personnel shall have a repair program implemented and obtain a TSSA Certificate of Authorization for Repairs, or a National Board “R” Certificate (see TSSA Safety Bulletin SB 02-01 Repair and Alteration Certification Program Requirements). The Organization is required to complete a demonstration of the repair utilizing their own personnel. The certified repair organization stated in 4.1 above is not applicable.

NOTE: Organizations wishing to complete their own repair may include the repair requirements in the same Quality Program Manual, or a separate Quality Program Manual.

- 4.3 Applicants requesting a TSSA Certificate of Authorization shall complete and submit the *Application for Non-Nuclear Ontario Certificate of Authorization* including the set fees as indicated on the application. In addition, the Organization shall submit a copy of the Quality Program Manual and the completed *Certification of Owner/User Self-Inspection Program Checklist*. When the Organization is also applying for a TSSA Certificate of Authorization for the repairs of pressure retaining equipment, they shall also submit the *Guide for Manufacturers, Fabricators, Installers, Repairers, Alterers, and Audit Teams*.
- 4.4 The audit shall be conducted by TSSA, and the Audit Team shall be comprised of a Quality Assessment Specialist as a minimum, and the Authorized Inspector or Authorized Inspector Supervisor as deemed necessary by TSSA.
- 4.5 The Audit Team shall conduct an evaluation of the Organization's Quality Program. The Organization shall demonstrate sufficient implementation of the Quality Program and provide evidence of the Organization's knowledge of welding, non-destructive examination, post weld heat treatment, and all other activities performed using current repair work, a demonstration mock-up, or a combination of both.
- 4.6 A recommendation to issue, renew or withhold the TSSA Certificate of Authorization shall be included in the Audit Report.



# Guideline

## For Companies Requesting a TSSA Certificate of Authorization for Owner/User Self Inspection

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- 4.7 If proper administrative fees are paid, and all other requirements are met, the TSSA Certificate of Authorization will be issued. The Certificate of Authorization will expire on the triennial anniversary date.
- 4.8 TSSA may audit the Quality Program and the activities of the Certificate Holder annually, or at any frequency determined by the Director of TSSA's Boilers and Pressure Vessel Program. The fees for such audits shall be charged to the Certificate Holder.

### 5.0 Scheduling the Audit

- 5.1 The Organization shall apply for the TSSA Certificate of Authorization through the TSSA On-Line Portal. The following shall be included:
- Completed *Application for Non-Nuclear Ontario Certificate of Authorization*
  - The applicable fee
  - Copy of the Quality Program Manual
  - Completed *Certification of Owner/User Self-Inspection Program Checklist*
  - Completed *Guide for Manufacturers, Fabricators, Installers, Repairers, Alterers, and Audit Teams* (when the same Organization is performing the repairs)
- 5.2 The TSSA Administrative Assistant will contact the Organization to schedule a mutually agreeable time for the Audit.

### 6.0 Quality Program

- 6.1 The following is a guide to some of the features required to be included in the Organization's Quality Program Manual. Each applicant shall address, as a minimum, all the elements and sections needed for the scope of work to be performed.
- a) **Title Page** - The name and complete street address (not PO Box) of the company to which the TSSA Certificate of Authorization is issued shall be included on the Title Page of the Quality Program Manual.



## Guideline

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- b) **Table of Contents** - The Quality Program Manual shall contain a page listing the contents of the Quality Program Manual by subject, section number (as applicable), and revision number of each section.
- c) **Scope of Work** - The Manual shall clearly indicate the scope and type of repairs that the applicant is capable of inspecting and intends to perform on pressure retaining items owned or used by the Organization.
- d) **Statement of Authority and Responsibility** - A dated Statement of Authority and Responsibility, signed by an officer of the Organization, shall be included in the Quality Program Manual. Further, the Statement of Authority shall include:
- The title of the individual who will be responsible to maintain and implement the program,
  - A statement that if there is internal disagreement in the implementation of the Quality System, the matter is to be referred for resolution to a higher authority in the Organization,
  - A statement that all repairs carried out by the organization shall meet the requirements of the Ontario Boilers & Pressure Vessels Act, TSSA, the applicable sections of the CSA-B51 Standard, National Board Inspection Code, and all other applicable Codes and Standards.
- e) **Manual Control** - The Quality Program Manual shall include the necessary provisions for revising and issuing documents to maintain the Quality Program Manual current. The title of the individual authorized to approve revisions shall be included in the Quality Program Manual. Revisions must be accepted and signed by TSSA prior to the new issuance or revision of the Quality Program Manual and implementation.
- f) **Organization** - An organizational chart or description of the organizational structure shall be included in the Quality Program Manual. The line for authority of the company's inspection program shall be independent of those responsible for the execution of the repair work. The Quality Program Manual



## Guideline

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shall identify those individuals responsible for preparation, implementation, or verification of the Quality Program. The responsibilities shall be clearly defined and the individuals shall have the organizational freedom and authority to fulfil those responsibilities.

- g) **Drawings, Designs and Specifications** - The Quality Program Manual shall contain controls to ensure that all design information, applicable drawings, calculations, specifications, and instructions are prepared by the Owner/User Organization, or Repair Organization, controlled and interpreted in accordance with the original Code of Construction.
- h) **Repair Inspections and Methods** - The Quality Program Manual shall make provisions for the Owner/User Organization's Inspector to create applicable travellers or checklists, to control the inspection process, and authorize a repair prior to starting. They shall have access to all drawings, design calculations, specifications, procedures, process sheets, repair procedures, test results, and other documents as necessary. It shall also describe who has the responsibility for certifying the Owner/User Repair Data Report supplied by the Owner/User Organization.
- i) **Calibration** - The Quality Program Manual shall describe a system for the control and calibration of examination, measuring, and test equipment used in the inspection of repairs, including the appropriate documentation and records.
- j) **Training and Qualification of Personnel** - The following qualifications and certifications, as applicable, are required for the Inspector and Inspector Supervisor/Technical Manager as part of the Owner/User compliance with this program:
  - a. For working in the Petro Chemical Industry ONLY, obtaining a valid API 510 and 570 Authorized Inspector Certificate, or documented proof that each Inspector and Inspector Supervisor/Technical Manager has taken the National Board In-service Inspector Commission Course (IS) and Repair Inspector Course (R) and received a passing grade.



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Note: Inspectors only certified to API 510 may provide Owner/User Self-Inspection on boilers, pressure vessels, and piping. Inspectors certified to API 570 can only provide Owner/User Self-Inspection on piping repairs.

- b. In all other continuous process industries, documented proof that each Inspector and Inspector Supervisor/Technical Manager has taken the National Board In-service Inspector Commission Course (IS) and Repair Inspector Course (R) and received a passing grade.
- c. Each Inspector shall report to a Supervisor/Technical Manager who is also certified in accordance with (a) or (b) above, as applicable, to the Quality Program, and to the requirements of the continuous process plant. The reporting hierarchy shall be shown in the Quality Program Manual Organization Chart.
- d. Each Inspector shall be directly employed by the respective Owner/User Certificate of Authorization holder. Subcontracted Inspection staff under the control of the Owner/User Organization are permitted under the Owner/User Self-Inspection program if the controls are described in the Quality Program Manual and the subcontracted inspection personnel meet all the training requirements and reporting requirements for Inspectors in this section (refer to "i." below). A copy of the applicable qualifications (from the National Board or API) shall be maintained as a record for each Inspector during the period for which the TSSA Owner/User Certificate of Authorization is valid.
- e. Each Inspector shall be assigned a unique identification number by the Certificate of Authorization holder. The numbers shall be assigned and recorded in a log which, as a minimum, shall include the Inspectors name and reference number. The log shall be made available for review by TSSA at any time.
- f. The duties of each Owner/User Inspector and Supervisor are defined in the National Board NB-263 Rules for Commissioned Inspectors. Each Inspector shall also maintain a diary in accordance with the National



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Board NB-263. Each Inspector diary shall be available at any time for review by TSSA.

- g. The Certificate of Authorization holder shall also establish a documented in-house training program. The program shall include training objectives and provide methods of evaluating training effectiveness. Training requirements shall be provided to each Inspector immediately after commencing employment, and at periodic intervals not exceeding one year. As a minimum, training objectives shall include:
- Knowledge of CSA B51, applicable ASME Codes, and NBIC requirements,
  - Responsibilities within the Quality Program,
  - Knowledge of the technical aspects and mechanical skills for the applicable position.
- h. As a minimum, all training shall be documented with a detailed agenda and an attendance record that identifies the trainer and attendees for each session. The agenda and training records shall be maintained and made available at any time for review by TSSA.
- i. Companies may utilize contract Inspectors provided:
- The Owner/User Organization assumes full responsibility for the Inspector,
  - The Inspector reports to the Owner/User Organization,
  - The Owner/User Organization accepts the qualifications from the Inspector (National Board or API, as applicable),
  - The Owner/User Organization appoints the Inspector as required by the Owner/User Quality Program Manual and,
  - The Owner/User Organization provides any additional training as required by the Owner/User Quality Program Manual.



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- k) **Control of Contracted Services** - A description of the process for contracting and control of services such as Non-Destructive Examination, welding, etc., including activities provided by other qualified Certificate of Authorization holders, where applicable. The use and control of all other qualified subcontracted Certificate of Authorization holders that perform repairs shall be clearly described.
- l) **Corrective Action** - The Quality Program Manual shall have provisions for identification, resolution, and disposition of conditions adverse to Quality, including:
- Identification and documentation of conditions adverse to Quality,
  - Personnel involved with the resolution of the condition adverse to Quality,
  - Measures taken to preclude repetition of the adverse condition and reporting to management.
- m) **Audits** - Annual internal audits of the Owner/User Self-Inspection Quality Program shall be completed to assist the Organization's management in maintaining consistent levels of Quality. The following requirements shall be addressed:
- Procedures/checklists (as applicable) shall be established to complete the Audit functions,
  - The Quality Program shall have a means to document the Audit,
  - Audits shall be reviewed by management,
  - Follow up actions are documented,
  - Audit documentation shall be available for the TSSA Audit Team for review at each triennial review audit.
- n) **Exhibits** - Records shall include a documentation package from the Repair Organization. In addition, each boiler, pressure vessel, pressure piping, or fitting repair shall be documented on a Repair Data Report, in a format identical to that provided by TSSA or National Board (Exhibit #1). Reports shall be made



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available for audit at any time by TSSA. Each Repair Data Report shall include any Manufacturer's Partial Data Reports for pressure parts (Exhibit #2). The Quality Program Manual shall indicate the title of the individual responsible for preparing, signing, distributing, and maintaining Repair Data Reports. All Repair Data Reports shall be retained by the Owner/User Self-Inspection Organization for audit by TSSA. These records shall be maintained for the lifetime of the system, boiler, or pressure vessel.

Any forms referenced in the Quality Program Manual shall be included as an exhibit. The forms may be a part of the main body text of the manual or included as an Appendix. For clarity, each sample form shall be completed and identified as an example.



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## Exhibit 1 – Sample Owner/User Piping Repair Data Report

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### ADD Company Name and Address

**NOTE:** Data Report to be forwarded and used by the allocated Repair Organization.

OWNER/USER SELF-INSPECTION REPAIR REPORT – PIPING							
REPAIR REPORT NO :		REGISTRATION NO.			WORK ORDER NO. :		
1. Work Performed by:							
2. Owner: <b>Add Company Name.</b>							
3. Location of Installation:							
4. System Description:							
5. Design Pressure:		psig		Design Temperature:		°F	
6. Design Code:							
7. Description of Defects:							
8. Description of Repair or Replacement							
Line # / Dwg	Pipe Dia	Pipe Sched.	Material Spec	Length (Ft)	Welded/Brazed	NDE	PWHT
9. Pressure Test							
Line # / Dwg	Fluid & Temp	Final Test Pressure	Duration	Remarks			
10. Welders							
Name	Stamp	Employer	Expiry Date	Process	Thick Range	Diameter Range	
Company Weld Procedure Specification No.:				Weld Procedure Registration No.:			



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Repair Number: \_\_\_\_\_

REPAIR ORGANIZATION CERTIFICATE OF COMPLIANCE
<p>I _____ certify that the statements made in this report are correct and that all design, material, construction, inspection and workmanship on this unit conforms to the requirements of Ontario's Boiler and Pressure Vessel Act, Regulations, CSA B51 Code and all other applicable Codes and/or Standards.</p> <p>Certificate of Authorization: _____ Expires on: _____</p> <p>Signature: _____ Title: _____ Date: _____</p> <p>Company: _____ Address: _____</p>
OWNER/USER CERTIFICATION
<p>I _____ 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 NBIC, Technical Standard and Safety Act, Regulations, CSA B51 Code and all other applicable Codes and/or Standards.</p> <p>Certificate of Authorization: _____ Expires on: _____</p> <p>Signature: _____ Title: _____ Date: _____</p> <p>Inspector : _____</p>



# Guideline

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## Exhibit 2 – Sample Owner/User Piping Repair Data Report

Page 1 of 2

### ADD Company Name and Address

**NOTE:** Data Report to be forwarded and used by the allocated Repair Organization.

OWNER/USER SELF-INSPECTION REPAIR REPORT – BOILERS/PRESSURE VESSELS						
C.R.N. :		O.I.N. :		REPAIR NO. :		
1. Work Performed by:						
2. Owner: <b>Add Company Name.</b>						
3. Location of Installation:						
4. Unit Description:				Manufacturer's Name:		
5. Year built:	National Board No.:		Mfg. Serial No.:	CRN No.:		
6. Maximum Allowable Shell Pressure :			psig	Max. Shell Temperature :		°F
Maximum Allowable Tube or Jacket Pressure:			psig	Max. Tube or Jacket Temperature :		°F
7. ASME Code Section:				NBIC Edition:		
Diameter or Width:		ins. x Length	ins.	Safety Valve or Rupture Disc Setting:		psig.
Heating Surface:			sq. ft.			
8. Description of Defects:						
9. Description of Repair						
10. RT: No [ ] Yes [ ]				Other NDE: No [ ] Yes [ ]		
11. PWHT: No [ ] Yes [ ]						
12. Hydrostatic Test Pressure: Shell:			Psi	Tubes or Jacket: Psi		
13. Welders						
Name	Stamp	Employer	Expiry Date	Process	Thick Range	Diameter Range
Company Weld Procedure Specification No.:			Weld Procedure Registration No.:			
<b>Remarks</b> (Attach Manufacturer's Partial or Piping Data Report as applicable)						



# Guideline

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Technical Standards &  
Safety Authority  
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Repair Number: \_\_\_\_\_

REPAIR ORGANIZATION CERTIFICATE OF COMPLIANCE
<p>I _____ certify that the statements made in this report are correct and that all design, material, construction, inspection and workmanship on this unit conforms to the requirements of Ontario's Boiler and Pressure Vessel Act, Regulations, CSA B51 Code and all other applicable Codes and/or Standards.</p> <p>Certificate of Authorization: _____ Expires on: _____</p> <p>Signature: _____ Title: _____ Date: _____</p> <p>Company: _____ Address: _____</p>
OWNER/USER CERTIFICATION
<p>I _____ 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 NBIC, Technical Standard and Safety Act, Regulations, CSA B51 Code and all other applicable Codes and/or Standards.</p> <p>Certificate of Authorization: _____ Expires on: _____</p> <p>Signature: _____ Title: _____ Date: _____</p> <p>Inspector : _____</p>