



# Boiler and Pressure Vessel Safety

## Guideline for the Alternate Piping Process

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

### 1.0 Scope of Document

This document details the steps required to implement the Alternate Piping Process including:

- 1.1 Obtaining a “TSSA Certificate of Authorization” for the Alternate Piping Process.
- 1.2 Qualifying and appointing Company personnel to provide inspections. (Qualified Persons).
- 1.3 Notifying the TSSA of Alternate Piping Process jobs.
- 1.4 Submission of the TSSA Alternate Piping Data Form.
- 1.5 Annual Audits of Alternate Piping Program.

### 2.0 Prerequisites Prior to Applying for the Alternate Piping Process “Certificate of Authorization”

- 2.1 The Company must have a current TSSA “Certificate of Authorization” for ASME B31.1, ASME B31.3, ASME B31.5 or CSA Z7396.1 as applicable for a minimum of 3 years prior to applying for the Alternate Piping Process with proof of documented previous work.
- 2.2 The Company is required to have at least one person successfully complete the minimum Module 1 training as required by the TSSA prior to initial application for the Alternate Piping Process.

### 3.0 Applicable Documents

- Safety Advisory BPV-001-23 (Alternate Process for Pressure Piping Inspection in Ontario)
- Alternate Piping Data Form (PV-09052)
  
- Application for Non-Nuclear Certificate of Authorization (BPV-007)
- BPV Piping Inspection Request Form (P0525)



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### Training Documents

- Alternate Piping Training Registration Form (On TSSA Website)
- Alternate Piping Qualified Persons Eligibility Checklist (On TSSA Website)

### **4.0 Definitions**

Qualified Persons	An individual accepted by the TSSA that has been qualified and appointed by a TSSA Alternate Piping “Certificate of Authorization” Holder that performs alternate piping inspections on behalf of the Certificate Holder on eligible piping systems in accordance with TSSA Safety Advisory BPV-001-23.
Certificate of Inspection	A certificate to the owner or operator stating that the boiler, pressure vessel, fitting or piping, as the case may be has passed an inspection.  <b>Note:</b> The Certificate of Inspection is the TSSA Alternate Piping Data Form that is signed by a TSSA Representative
Responsible Person(s)	A person(s) who is responsible for the continued proficiency of the Alternate Piping Program on behalf of the Company.
Audit	This is when the Alternate Piping Process is audited annually or renewed at the triennial Audit with all the other Certificate of Authorization(s).
Modified Assessment	This is when the Company is adding the Alternate Piping Process prior to expiry of the Companies current Certificates of Authorization(s).

### **5.0 Obtaining the Alternate Piping Process Certificate of Authorization**

#### **Step 1.**

- 5.1 The Company shall apply for an Audit or Modified Assessment to add the Alternate Piping Process to their current TSSA Certified Quality



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Program, *at least 1 person shall have completed the required Module 1 Training prior to application.*

- 5.2 The Application for Non-Nuclear Certificate of Authorization as posted is required to be completed and returned to the TSSA for the scheduling of the Audit.
- 5.3 The Audit or Modified Assessment will be scheduled at a mutually agreed upon time.
- 5.4 The Company will be required to add to their Quality Program the details of the Alternate Piping Program.
- 5.5 TSSA will supply a SAMPLE Supplement that may be utilized by the Company that details the specific requirements. The Supplement is not required to be in the actual Quality Program Manual but must reference the current Quality Program Manual.
- 5.6 The Company may elect to reformat, change or add the supplement requirements into their existing Quality Program Manual based on their specific Company needs if the intent of the Supplement is not affected.
- 5.7 A Quality Assessment Specialist will conduct the certification Audit or Modified Assessment. Modified Assessments may be in person or completed online as determined by the Auditor. NOTE: The TSSA representative may look at past piping jobs for compliance prior to completing the Audit or Modified Assessment.
- 5.8 After successful completion of the Audit or Modified Assessment, the
- 5.9 Company will receive a new Certificate of Authorization for the Alternate Piping Process and may complete Alternate Piping Inspections as outlined in the TSSA Safety Advisory, provided a Qualified Person has been appointed. (see Assigning the Qualified Persons Identification Number)



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### **Step 2.**

- 5.10 The Company shall determine the person(s) that will provide the Qualified Person Duties on the Company's behalf.

**Qualified Person Note:**

Qualified Persons are not to provide any inspections that they are not experienced, trained or capable of providing until further experience or training has been obtained.

**Example:** if a Qualified Person only has experience in mechanical fabrication inspections, they shall not provide inspections on welded or brazed jobs.

### **Step 3.**

- 5.11 The Company is required to complete and submit the:

- Alternate Piping Process Training Registration Form
- Alternate Piping Qualified Persons Eligibility Checklist found in registration form

NOTE: One (1) candidate per Training Registration and Eligibility Checklist.

### **Step 4.**

- 5.12 The Candidate shall attend the required training Modules as determined by the TSSA.
- 5.13 Course schedules, outlines, training details posted on TSSA Website.

## **6.0 Assigning the Qualified Person Identification Number**

- 6.1 The Company shall assign each Qualified Person with a unique identifier number after successful completion of the required TSSA training and documented evidence of training in the company's Quality Program.

### **IMPORTANT 1.**

This unique identifier shall be based on the new Certificate of Authorization QA Number. This identifier is NOT a certification; it is just to



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identify the Qualified Person to the specific company.

### **IMPORTANT 2:**

These Qualified Person Identification Numbers are not transferable and become obsolete if the Qualified Person no longer works for the Company.

The Company shall notify the TSSA as required of any changes to the employment of Qualified Persons at: [alternatepiping@tssa.org](mailto:alternatepiping@tssa.org)

### **How to assign the Unique Identifier to Qualified Persons**

6.2 Based on the companies new Alternate Piping "Certificate of Authorization" Number

*Important: always use this same QA number*

6.3 Each Qualified Person shall be identified by a ( -1, -2, -3 etc.....)after the QA Number

6.4 Numbers shall be given in succession.

6.5 Numbers previously assigned are **NOT** to be re-issued to any other Qualified Person.

6.6 Inform the TSSA of the Qualified Person represented by that number at: [alternatepiping@tssa.org](mailto:alternatepiping@tssa.org)

**Example: ABC Company**

1<sup>st</sup> Qualified Person

Company QA Number: QA012345  
Qualified Person: John Doe  
Identifier Assigned: QA012345-1

2<sup>nd</sup> Qualified Person

Company QA Number: QA012345  
Qualified Person: Sarah Sue  
Identifier Assigned: QA012345-2



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### **Utilizing Subcontracted Qualified Persons**

From time to time a TSSA Alternate Piping “Certificate of Authorization” holder Company may be required to subcontract a Qualified Person that will provide inspections on their Company’s behalf in accordance with TSSA Safety Advisory BPV-001-23.

ONLY Company’s holding a TSSA “Certificate of Authorization” for the Alternate Piping Process can subcontract Qualified Persons to provide inspections for their company in accordance with the TSSA Safety Advisory BPV-001-23

The Company shall only appoint Qualified Persons that have taken the TSSA Module 1 course and successfully passed the examination. Qualified Persons must be trained in the specific Company’s Quality Program prior to providing inspections.

The Company shall assign a number to the Qualified Person based on their TSSA “Certificate of Authorization” QA Number (see 6.2-6.6). The Company shall notify the TSSA at [alternatepiping@tssa.org](mailto:alternatepiping@tssa.org) of the assigned Qualified Person Identification Number

- Company’s must have an Alternate Piping TSSA “Certificate of Authorization” to be able appoint and utilize subcontracted Qualified Persons
- Other Company’s assigned Qualified Persons numbers can not be used.

### **7.0 Alternate Piping Work Order**

\*A Request for Work Order must be received prior to performing actual fabrication or Installation work. In RUSH instances where the Work Order can’t be obtained prior to completing the work but is sent into the TSSA (example: weekends or holidays), a note shall be added in the notes section of the Alternate Piping Data Form indicating this. The Work Order will be returned when TSSA Business resumes.

7.1 On the TSSA Website (Boilers & Pressure Vessels) follow the request for Piping Inspection as applicable.



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- 7.2 Complete the application BPV Piping Inspection Request Form as required and submit for a TSSA Work Order Number per instructions to [inspectionsscheduling@tssa.org](mailto:inspectionsscheduling@tssa.org)
- 7.3 TSSA Inspection Scheduling will e-mail back to you a WORK ORDER NUMBER

### Submittal of Alternate Piping Data Form

Alternate Piping Data Forms shall have been submitted for the technical review & shall be approved prior to system startup

- 7.4 Alternate Piping Certificate Holder to complete the work and submit the completed Alternate Piping Data Form to the Alternate Piping TSSA Coordinator. [alternatepiping@tssa.org](mailto:alternatepiping@tssa.org)
- 7.5 TSSA Representative to review the Alternate Piping Data Form and return a signed copy to the Alternate Piping Certificate Holder upon acceptance.
- 7.6 Alternate Piping Certificate Holder to send a copy to client.

#### **Attention!**

Alternate Piping Data Forms that are returned for corrections by the TSSA Representative are required to be returned in a timely manner after correction for re-review.

If there has been no response:

- A follow up e-mail will be resent to the client after 30 days
- If still no response after 30 additional days, the Work Order will be marked as **Failed**, billed and a Standard "Inspection Order" will be issued and, a follow up Inspection will be required by a TSSA Inspector.

## **8.0 Work Order Specifics**

- 8.1 A Work Order is only applicable to a specific address or specific site location.
- 8.2 Work Orders can only remain open for a maximum of 1 Year, if the work will not be completed within the 1 Year Period, the Work Order shall be cancelled and new Work Order shall be obtained.
- 8.3 Up to \*5 Alternate Piping Data Forms can be completed per Work Order.



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### **\*Multiple Alternate Piping Data Forms per Work Order.**

Up to 5 Multiple Alternate Piping Data Forms can ONLY be for jobs consisting of multiple piping systems or installations at the same address that are not required to be operated until all systems or installations are complete.

- 8.4 Multiple Alternate Piping Data Forms per 1 Work Order must all be submitted at the same time for Technical Review and prior to system operation.
- 8.5 When multiple design conditions (MAWP, Temp) exist on a single piping System multiple Alternate Piping Data Forms are required, One Alternate Piping Data Form per Design Condition.
- 8.6 When there is multiple Alternate Piping Data Forms per Work Order and the System needs to operate prior to completion of all work, the completed Data Forms shall be submitted for Technical Review and a new Work Order shall be obtained for the remainder of the work.

### **9.0 Maintaining the Alternate Piping Program.**

- 9.1 The Company will be required to have an ANNUAL Audit of the Alternate Piping Program portion of their respective Quality Program.
- 9.2 The Company will be notified by the TSSA when the Audit is required.
- 9.3 The Audit will be scheduled with the TSSA representative at a mutually agreeable time.
- 9.4 Triennial Audits for renewing all TSSA Certificate of Authorizations are every 3 Years. This Audit will include the Alternate Piping Process.

Triennial Audit ----- Annual Audit -----Annual Audit----- Triennial Audit etc.



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9.5 After completion of the Audit the TSSA Representative will outcome the Audit as follows:

### **No Audit Deficiencies**

If there are no Audit deficiencies the TSSA representative will recommend continued use of the Alternate Piping Program. (No further action required)

### **Audit Deficiencies**

Audit deficiencies will be identified by the TSSA Representative and are required to be documented and corrected per the implemented Quality Program.

Audit deficiencies will be based on a Major and Minor basis.

### **Minor Deficiency**

A minor deficiency is a deficiency that does not affect the safety and integrity of the piping system.

Examples include but not limited to:

- clerical mistakes,
- missing signatures on documents but not consistent,
- missing documentation required by the Quality Program but does not include documents that require inspection signatures,
- Etc.....

### **Minor Deficiency Disposition**

Minor deficiencies are to be documented per the Quality Manual and completed within the timeframe allotted by the TSSA representative.



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### **\*Major Deficiency**

A major deficiency is one that affects or could affect the safe operation of the piping system or infringes on the Ontario Regulation 220/01 and adopted Codes.

Examples include but not limited to:

- Discrepancies in the pressure test that are less than required by the Code or Design without acceptance from TSSA.
- NDE not completed as per Code and Design
- No CRN registration for fittings.
- Un-qualified personnel providing inspections.
- Qualified Personnel not providing inspections as required by the program.
- Etc.....

### **\*Major Deficiency Disposition**

Major deficiencies will require a TSSA Technical Services review based on the scope and nature of the deficiency.

#### **(TSSA Inspector Installation Review)**

Each previous job or installation as applicable completed under the Alternate Piping Program for which a major deficiency is identified, may require a TSSA Inspector to review the actual job to ensure the forementioned piping system can safely operate.

### **Technical Services Review**

Technical Review dispositions may include the following:

1. New installations or fabrications may require Inspector involvement until further notice.
2. Qualified Person(s) may:
  - Be required to re-take the TSSA Module 1 training and pass the examination.



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- May have their TSSA acceptance suspended until further notice or revoked.
- 3. Responsible Persons(s) may be required to take the TSSA Module 1 Training and pass the examination.
- 4. TSSA "Certificate of Authorization" for Alternate Process may be suspended until further notice or revoked.
- 5. More frequent Audits of the Alternate Piping Process until further notice.