



Boilers and Pressure Vessels	Ref. No.: BPV-21-02
ADVISORY	Date: December 1, 2021

Subject: Repairs to Existing Agricultural Piping Installed Before July 1, 2021
Distribution: Posted on TSSA website

Background

Until recently, a longstanding Minister's Order exempted boilers and pressure vessels (BPVs), including associated piping, used for agricultural purposes from Ontario Regulation 220/01 (the "BPV regulation").

As a result of a recommendation contained in the Auditor General of Ontario's 2018 value-for-money audit of TSSA and following government consultations with industry stakeholders, the Ontario government decided to revoke the agricultural exemption for boilers and pressure vessels.¹ Consequently, as of July 1, 2021, all boilers, pressure vessels or piping used for agricultural purposes must comply with the BPV regulation.

Piping Registration

The BPV regulation requires that all regulated piping systems manufactured for use in Ontario must be registered with TSSA.² Registered piping designs are issued "P numbers".

Transitioning Exempt Agricultural Piping

Due to the recently revoked agricultural exemption, TSSA expects that most existing piping used for agricultural purposes is likely not registered with a "P number". In keeping with TSSA's general approach to transitioning piping systems, a previously exempt agricultural piping system must be registered and obtain a "P number" if it is altered or repaired after July 1, 2021. Only the altered or repaired segment requires registration.

Agricultural Piping Specification

TSSA recognizes the regulatory burden of obtaining individual registration for piping systems. To help smooth the transition from exempt to regulated, TSSA has published a specification covering common, lower-risk piping that can be followed for repairs, in lieu of registering each repair individually.

This specification is intended to be used only for repairs to existing agricultural piping and not for new construction. Designs for piping systems used for agricultural purposes that are installed after July 1, 2021 must be registered. See [Engineering Services](#) for the design registration process.

TSSA will deem a repair to a regulated piping system (or segment of a piping system) installed before July 1, 2021 and used exclusively for agricultural purposes to be a registered piping system if it meets the Agricultural Piping Specification set out below.

¹ <https://www.ontario.ca/page/ministers-exemption-revocation-boilers-and-pressure-vessels-regulation-22001#section-0>

² O. Reg. 220/01, s. 4(1): "...no person shall manufacture a boiler, pressure vessel, fitting or piping for use in Ontario unless its design is registered with the director."

Agricultural Piping Specification

This specification provides an alternative to design registration for repairs to existing piping that was installed before July 1, 2021 and used for agricultural purposes only. Repairs to these piping systems need not have their design registered provided all the following conditions are met:

All Piping Other than Refrigeration Piping

1. The design and construction shall be in accordance with ASME B31.1 or ASME B31.3 Category D.
2. Design pressure shall not exceed 150 psig.
3. Design temperature shall be from -20 to 366°F for carbon and stainless steel, and from -20 to 250°F for copper.
4. Service fluids shall be non-flammable, non-toxic, and not damaging to human tissues (see ASME B31.3 para. 300.2 for definition).
5. Piping shall be protected by a relief device set at 150 psig or less.
6. The maximum length of piping shall not exceed 25 ft. Major extensions, additions and new piping systems must follow the design registration process.
7. All new fittings installed as part of the repair shall have a valid Canadian Registration Number (CRN).
8. Piping shall be adequately supported as per the appropriate design code. See ASME B31.1 Table 121.5-1 for suggested steel pipe-support spacing.
9. Piping shall meet all the conditions of one of the following groups:

Group	Carbon Steel Pipe	Stainless Steel Pipe	Stainless Steel Tube	Copper Tube
Maximum Pipe Size	NPS 4	NPS 4	1 in. OD	NPS 2
Wall Thickness or Schedule	Schedule 40 or 80	Schedule 40 or 80	Min. 0.035" wall thickness	Type K
Pipe Material	ASTM A53B ERW or seamless, A106B, A106C, A333 Gr. 6	ASTM A312 TP304, 304L, 316 or 316L	ASTM A269 or A213 or A270 TP304, 304L, 316 or 316L	ASTM B88 or B819
Pipe Joining Methods	Welded, mechanical joints (grooved pipe), or *threaded (max NPS 3). *For threaded joints in water service above 100 psi with water temperature above 220°F, the pipe shall be seamless, and schedule 80.	Welded, mechanical joints (grooved pipe), or *threaded (max NPS 3). *For threaded joints in water service above 100 psi with water temperature above 220°F, the pipe shall be seamless, and schedule 80.	Welded, flared, flareless, or compression-type tubing joints.	Brazed

Refrigeration Piping

1. The design and construction shall be in accordance with ASME B31.5.
2. Design pressure shall not exceed 450 psig.
3. Design temperature shall be from -20 to 125°F.
4. Service fluids shall be A1 refrigerants (See CSA B52) that operate within the pressure-temperature conditions above. Other refrigerant groups (A2, A2L, A3, B2, B2L, B3, etc.) and high-pressure A1 refrigerants, such as CO₂ (R-744), are excluded.
5. Piping shall be protected by a pressure-limiting device or pressure relief device set at 450 psi or below.
6. The maximum length of piping shall not exceed 25 ft. Major extensions, additions and new piping systems must follow the design registration process.
7. All new fittings installed shall have a valid Canadian Registration Number (CRN).
8. Piping shall be adequately supported as per the design code.
9. Tubing material shall be ASTM B280, B819 Type L or B819 Type K.
10. The maximum tube size is 1-1/8" outside diameter except for ASTM B819 Type K where the maximum size is 1-5/8" outside diameter.
11. Joints shall be brazed.

Repairs to piping that meet all the conditions listed above need not have its design registered. In place of the "P number", certificate holders should write "EXISTING AG." on the [Piping Systems Installation and Test Data Report](#) as shown below:

CERTIFICATE OF COMPLIANCE	
I, the undersigned, declare that the described pressure piping system approved under design registration number P#	EXISTING AG.
complies in all respects with the regulations for construction, installation, testing and inspection as required by Ontario's <i>Technical Standards</i>	

Note: This specification is not a substitute for sound engineering judgement or technical competence. Companies repairing existing agricultural piping systems in accordance with this guideline must hold a valid Certificate of Authorization from TSSA or another Canadian jurisdiction. The certificate holder must contact their local TSSA BPV inspector before starting the repair and inform him/her of the intent to use this guideline in lieu of piping registration.