



Remote assessments

BPVR Guideline

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1. Scope of guideline

The information provided within this document has been developed to assist duty holders in the collection of remote inspection evidence in the field. This document does not contain an exhaustive list of all documentation/ media that may be required to support a remote inspection and not all items will be required for all equipment or inspection types. It is the responsibility of the duty holder to prove compliance with requirements of the Act, regulations, and adopted codes. For additional guidance on what may be required specific to your installation please contact your local safety officer.

Upon receipt of a declaration from a duty holder using [form 1449](#) or [form 1444](#) (for pressure vessels) or request for inspection under B.C. Reg. 104/2004 s.61(2), the safety officer will determine whether a remote or physical inspection is required. If it is determined that a remote inspection is required, the permit holder will be requested to provide documentation and/or media to support the remote inspection process.

Types of evidence that may be requested include, but are not limited to:

- Documentation (PDFs, Word, etc.)
- Photo or videos logs
 - Photo or video evidence must be of sufficient quality that the inspecting safety officer can clearly make out the required details. If submitted photos are not of sufficient quality (blurry, taken at excessive distance, etc.) additional evidence will be requested.
 - Photo or video provided must clearly identify the installation location (this can be done through GPS, taking a photo of the address, etc.)
 - When it is necessary to note elapsed time for the purposes of inspection (i.e., pressure test) the photo or video evidence should be time stamped or provide an alternative method of demonstrating that the appropriate timeframe has elapsed
 - Where distance indication is required the use of a tape measure with the distance shown in the photo
 - Where slope indication is required the use of a graded level shown in the photo
- Live video conferencing

2. Types of evidence as per assessment type

The following section is a list of evidence, specific to assessment types, that could be asked by safety officers during a remote assessment.

2.1 Piping construction assessment (except for manufacturing shops and fabrication of boilers and pressure vessels)

Pressure piping that is pre-fabricated off-site, other than the piping fabricated in a shop under class MA contractor's licence, must be designed and fabricated as per the requirements of the code of construction. During a remote assessment, safety officers may ask for the following evidence as proof of compliance.

Documents:

- Design registration
- Material purchase orders
- Welding consumables purchase orders
- Material test reports and certificates of conformity

- Traveler / inspection and test plan (ITP)
- Construction/ as-built drawings
- Welding procedure specifications and procedure qualification records,
- Brazing procedure specifications and procedure qualification records,
- Welder's certificate of qualification and continuity records
- Non-destructive examination reports
- Pressure test procedure
- Signed pressure test declaration
- Pressure test gauge calibration certificate
- Construction data reports, i.e., [form 1329](#)

Photos:

- Materials, showing heat numbers (pipe, fittings, plates, heads, etc.). Safety officer may ask for a random selection
- Pictures of various stages during construction, if available
- Pictures of finished welding and Brazing. Safety officer may ask for a random selection
- Time stamped pressure test gauge pictures at the start and ending of the test as well as all intervals as per pressure test procedure
- Picture(s) of final fabricated regulated item

Videos:

- A live video might be arranged to assess the overall condition of the plant and regulated item(s)

2.2 Installation assessment

Assessment of installation of regulated items such as boilers, vessels, pressure piping, and refrigeration systems requires proof of compliance with both administrative and technical requirements. The following provides a list of evidence for this compliance that could be asked by the safety officer during the remote assessment process.

2.2.1 Boilers

Documents:

- Construction data report for piping, when applicable
- Manufacturer's data report for boiler
- Commissioning and testing reports ([form 1172](#))
- Installation report for cast iron and cast aluminum sectional boiler ([form 1555](#))

Photos:

- Boiler room (one panoramic photo together with individual photos to cover all aspects of the room, including exits, access ladders and runways, combustion air, etc.)
- Boiler structural attachment(s) and piping supports/flexibility, etc.
- Boiler relief valve (including name plate c/w legible information)
- Boiler Nameplate, with legible information
- Boiler safety relief valve and discharge piping
- Boiler blowoff, blowdown piping/blowdown tank, if applicable
- Boiler feedwater piping (connection to boiler, gauge, check valve and stop valve on line must be captured)
- Feed water pump nameplate (must have the flow rate)
- Remote shutdown switch(s)
- Local boiler power disconnect (lockable)
- Shut-off valves
- Low water cutoffs and/or flow switch
- Operating and safety controls; temperature or pressure, high temperature or pressure (manual reset), etc.
- Water gauge glass
- Pressure and temperature gauges
- Boiler drain valve

Videos:

- A live video might be arranged to assess the overall condition of the plant and regulated item(s)

2.2.2 Pressure vessels**Documents:**

- Construction data report for piping, if applicable
- Manufacturer's data report (MDR)
- Pressure vessel information: owners designation or equipment ID#, operating pressure and temperature, vessel dimensions where MDR is not immediately available.

Photos:

- Installation location (one panoramic photo together with individual photos to cover all aspects of the room, including exit access ladders and runways, clearance, etc)

- Pressure vessel supports, foundations, and settings
- Pressure vessel relief valve, including name plate c/w legible information
- Pressure vessel nameplate, with legible information
- Pressure vessel relief/drain piping
- Connected Pipes and pipe supports
- Pressure/level gauges c/w connection piping
- Thermometer, if applicable
- Vessel grounding wire, if applicable

Videos:

- A live video might be arranged to assess the overall condition of the plant and regulated item(s)

2.2.3 Pressure piping**Documents:**

- Piping Design registration, when applicable
- Construction data report for prefabricated piping spools, [form 1329](#) or [form 1330](#), whichever applicable
- Material Test reports and Certificates of conformity
- Non-destructive examination reports, when applicable
- Pressure test procedure for the assembly
- Signed pressure test declaration for the assembly
- Pressure test gauge calibration certificate
- If field welding required:
 - Construction Data Report for field fabricated piping spools, [Form 1329](#) or [Form 1330](#), whichever applicable
 - Welding Consumables purchase orders
 - Traveler/inspection and test plan (ITP)
 - Construction/as-built drawings
 - Welding procedure specifications and procedure qualification records
 - Welder's certificate of qualification and continuity records
 - Non-destructive examination reports
 - Pressure test procedure

- Signed pressure test declaration
- Pressure test gauge calibration certificate

Photos:

- Installation location
- Pressure piping supports
- Seismic restraint, if applicable
- Final leak test declaration
- If field welding required:
 - Time stamped pressure test gauge pictures at the start and ending of the test as well as all intervals as per pressure test procedure

Videos:

- A live video might be arranged to assess the overall condition of the plant and regulated item(s)

2.2.4 Refrigeration systems

2.2.4.1 Self-contained and certified packages of A1, A2, and B1 refrigerants with capacity not exceeding 125 kW or A3, B2, and B3 refrigerants with capacity not exceeding 25 kW

Documents:

- Manufacturer technical data sheet

Photos:

- A legible picture of the nameplate (the photo should cover the standard and testing laboratory certification as per CSA B52, clause 5.2, as well as amount of refrigerant, prime mover rating, etc.)
- Picture(s) of the installed unit from all angles
- Picture of attachment to the building structure
- Pictures of nameplates of individual compressor motor(s)

2.2.4.2 Refrigeration systems not covered above including split systems and field erected units (depending on the complexity of the project any of the following may be asked for proof of compliance)

Documents:

- Manufacturer data report for all regulated pressure vessels
- Relief piping calculation
- Ventilation calculation – leak or rupture and minimum ventilation requirements

- Refrigerant data (name, group, and charge)
- Calculation of quantity of refrigerant when it is claimed to be less than CSA B52, table 1
- Piping and Instrumentation Diagram (P&ID)
- Gas detector calibration report.
- Alarm test report
- Material purchase orders
- Welding consumables purchase orders
- Material test reports and certificates of conformity
- Traveler/inspection and test plan (ITP)
- Construction drawings
- Welding Procedure Specifications and procedure qualification records,
- Welder's certificate of qualification and continuity records
- Non-destructive examination reports, when applicable
- Pressure test procedure
- Signed pressure test declaration
- Pressure test gauge calibration certificate
- Piping Construction data report(s), i.e., [form 1329](#) or [form 1330](#), whichever applicable
- Drawings or detailed written declaration of piping route throughout the building, including room occupancies and elevation changes to verify conformance with CSA B52

Photos:

- Refrigeration room (one panoramic photo together with individual photos to cover all aspects of the room, including exits, vestibule, ventilation system, gas detectors, penetration fire seals, etc)
- Structural attachment of refrigeration equipment
- Nameplate of all pressure vessels and equipment, with legible information
- All relief valves, installed and c/w nameplate and installation date (photos to be tagged for the pressure vessel and to be legible)
- Relief discharge piping
- Remote emergency shutdown switch(es)
- Emergency fan switch(es)
- Emergency discharge valve, if installed

- Gas detectors
- Doors and exists to have proper signage
- Signage required by CSA B52
- Gas detection alarms and tags.
- Penetration seals and fire stopping (fire seals for Class-T rooms)
- Pipe supports and flexibility
- Seismic restraint, if applicable
- Safeties, including set points

Videos:

- A live video might be arranged to assess the overall condition of the plant and regulated item(s)

2.3 Repair and alteration

This regulated work and type of the documents and photos required depends on the scope of repair and must follow the requirements of the accepted QCP of the contractor, but at the minimum the following should be prepared:

Documents:

- Repair summary (description of repair)
- Repair and alteration procedure plan
- Manufacturer data report of the pressure retaining equipment is also required for the review of repair or alteration procedure
- Inspection and test plan (ITP) - Contactor and the owner's inspector, when applicable, must mark their inspection points before sending it to the safety officer)
- Alteration registration, when applicable
- Welding Procedure Specifications and procedure qualification records,
- Welder's certificate of qualification and continuity records
- Non-destructive examination reports, when applicable
- Pressure test procedure, when applicable
- Signed pressure test declaration, when applicable
- Boiler and pressure vessels repair and alteration report ([form 1060](#))
- Pressure piping repair/alteration report ([Form 1553](#))

Photos:

- Required photos and videos to be coordinated with the safety officer based on the scope of repair.

Videos:

- A live video might be arranged to assess the overall condition of the plant and regulated item(s)

2.4 In-service inspection

The documents and photos required for an in-service assessment of BPVR regulated items is dependent on the type of equipment and nature of service and should be coordinated with the safety officer and includes, but is not limited to:

Documents:

- Safety device calibration reports, when applicable
- Scanned copies/photos of log book, when applicable
- Relief valve tests reports/date of installation, when applicable
- Inspection, maintenance, service and testing records
- Any third party internal or external inspection reports, when applicable

Photos:

- Photo of all operators' certificate of operation.
- Pressure relief valves, legible nameplate and date
- Safety devices with legible calibration and test date, when applicable
- High resolution photos of external surface of all regulated items to cover the entire surface (multiple pictures or a video clip might be required) photos to cover insulation condition, if applicable
- High resolution photos of internal surface of all regulated items that are subject to internal inspection. Photos/videos to cover the entire surface (multiple pictures or a video clip might be required) photos to cover insulation condition, if applicable

Videos:

- A live video might be arranged to assess the overall condition of the plant and regulated item(s)

This a recommended list to supply to Technical Safety BC for the purpose of remote assessment, a safety officer will determine if and what additional information is required.