



Hydrogen High Pressure Pipe (HPP) Guideline

Introduction

This Plan Review Checklist comprises the subsequent sections, designed to facilitate a comprehensive understanding and compliance with regulations by both TSSA and applicants, with the paramount aim of ensuring public safety.

Checklist instructions

The Checklist contains a summary of the key requirements to obtain a license to operate and handle compressed gas tube trailer in a Checklist format. The Checklist is intended to demonstrate basic site-specific compliance. The TSSA may choose to include additional requirements adhering to the public safety in which the tube trailer would be located.

1. Scope of the application including the start to end points in a diagram.
2. Drawings* (P&IDs & PFDs) must include the following:
 - a. The pressure piping code of construction edition and addenda (e.g., ASME, B31.3,).
 - b. Design and operating pressures and design temperature of systems and subsystems.
 - c. Material specifications (as permitted by the code of construction).
 - d. Approved fittings (CRN certification or certified by an agency acceptable to the TSSA).
 - e. Pre-approved piping subassemblies (i.e., shop-built assemblies or buried piping).
 - f. Primary pressure relief device and its setpoint. This device must be certified as a primary overpressure protection and capacity rated device as defined in Table 1 of the CSA B51. The device must be registered as a category G device. The CRN number must be included on a rating plate attached to each device; and Service interval of the primary pressure relief device mentioned must be 3 years according to Table 5 of CSA B51.
3. Line identification lists showing the maximum design pressures, maximum and minimum design temperatures, and relevant specifications (as per item 4 below) for each line. All lines requiring registration should be highlighted on both the drawing and line lists.
4. Pipe specifications indicating the following:
 - a. Maximum design pressure.
 - b. Maximum and minimum design requirements.
 - c. Fluid service.
 - d. Dimensions.
 - e. ASME material specifications.
 - f. Flange, valve, and fitting standards.
 - g. Heat treatment section.
 - h. Non-destructive examination.
 - i. Corrosion allowance.
 - j. Impact testing.
 - k. Pressure test conditions, fluid.
5. If there are any welded joints within the scope of this application:
 - a. The Contractor performing the welding shall have the applicable C of A (certificate of authorization) for the code of construction either B31.1 or B31.3 from TSSA BPV (boiler and pressure vessel).
 - b. Welding procedure needs to be registered by TSSA BPV.
 - c. Welders need to have a Welder/Welding Operator Certificate issued TSSA BPV for welding process and range of variable that cover the production welds.
6. Compliance with CAN/BNQ 1784-000.

***Drawings and their representative line identification must be stamped by an Ontario Professional Engineer.**