

Guide for Completing Form AB-270

1.0 PURPOSE

To provide guidance for completing Form AB-270, General Engineering Requirements for the use of Engineered Pressure Enclosures (EPEs).

2.0 APPLICATION

This form shall be used for documenting the information related to the design, construction, installation procedure, maintenance, monitoring, and removal of the EPE.

3.0 GENERAL

A completed AB-270 form with original signatures shall be submitted to ABSA Design Survey Department with each application for registration of the RRIMR procedure. The completed AB-270 form shall be used when it is planned to install an EPE on a piping system or on a pressure vessel.

The latest version of the AB-270 form is posted on ABSA's website, direct link: <http://www.absa.ca/>

For applications for registration of the RRIMR where an EPE is planned to be installed on a pressure vessel, forms AB-270 and AB-230 shall be used or equivalent forms shall be provided as allowed in AB-521. In this case, form AB-270 will provide information regarding EPE and RRIMR, and form AB-230 will provide information regarding pressure vessel.

4.0 Instructions

The following describes the information required for completing each item of the form AB-270. The numbers in this instruction correspond to the numbers on the form AB-270.

1. Provide the name of the plant owner.

Note: The plant owner has overall responsibility for the EPE installation and the RRIMR procedure.

2. Provide the plant location for the installation of the EPE. Include the PP# and the Legal Sub Division (LSD).

3. Check the applicable Code of construction box which the pressure piping system is compliant with. If the Code of construction is ASME B31.1 then, also check the BEP or NBEP box.
4. When BEP box is checked in line 3 of the form, this field shall include, as a minimum, the line list, specific location of the EPE installation (e.g. leak on bottom water-wall header drain valve), P&ID showing the EPE location as well as the boiler location in relation to the EPE (how close are they).
5. Provide the Line Number, from the registered Line List document, where the EPE will be installed.
6. Provide the NPS or outside diameter of the pressure piping where the EPE will be installed. Get this information from the registered Line List.
7. Provide the pipe schedule or pipe wall thickness of the pressure piping where the EPE will be installed. Get this information from the registered Line List.
8. Check the appropriate fluid service type box.
9. Provide the service fluid (e.g. hot water condensate, steam) conveyed by the pressure piping.
10. Provide the design pressure of the pressure piping. Get this information from the registered Line List.

Note: On items 10, 11, 13, 14, 15 and 16 use same system of units (Imperial or SI units).
11. Provide the design temperature of the pressure piping. Get this information from the registered Line List.
12. Provide the pressure piping ASME/ASTM material specifications. Get this information from the registered Line List.
13. Provide the pressure piping Minimum Design Metal Temperature (MDMT) when required by the Code of construction. Get this information from the registered Line List.
14. Provide the pressure piping maximum operating pressure (MOP). Get this information from the registered Line List.
15. Provide the pressure piping maximum operating temperature (MOT). Get this information from the registered Line List.

16. Provide the pressure piping and EPE corrosion allowances (C.A.).

For the pressure piping, corrosion allowance shall be provided from the registered Line List.

For the EPE, corrosion allowance shall be provided from the EPE fitting drawing.

17. Check the applicable flange class box for the existing pressure piping. Get this information from the registered Line List.

18. Check the box for the type of damage that the EPE will temporarily cover.

Note: If there is a leak in the local thin area, chose box local thin area. If leak is through a pinhole in the weld, use box pinhole.

19. For local thin areas or cracks provide detail drawing(s). The drawing(s) shall include the size, location and orientation of the piping damage.

20. Provide the fitting CRN assigned to the EPE. If EPE fitting design has not been registered at the time of RRIMR procedure submission, the submitter shall check "Pending" on the box provided. In addition, the submitter shall either include the EPE design with the RRIMR procedure or provide reference to the EPE design submission tracking number.

Note: All fittings used for a pressure piping system shall be registered with ABSA prior to their use in service.

21. Check the applicable box for the type of EPE. The EPE may be bolted or it may be welded in to the existing pressure piping.

22. Provide the loadings to be considered in designing the EPE [for details refer to ASME PCC-2, Article 2.4, paragraphs 1(f), 3.8 and 3.9].

23. Provide the weight of the EPE. Provide this information from the EPE drawing.

24. Provide the Risk Assessment summary document and revision numbers.

Note: AB-270 form and the four owner documents listed in items 24, 25, 26 and 27 shall be included in the RRIMR procedure submission. The four owner documents requested above may be combined in one document. Please note that the AB-270 must refer to the owner document(s) or letter(s). These document(s) or letter(s) shall have document number and revision number.

25. Provide the Root Cause summary document and revision numbers.

26. Provide the Maintenance and Monitoring summary document and revision numbers.
27. Provide the Removal date for the EPE (owner-user's commitment in writing).
28. EPE Installer to provide their Installation procedure number.

Notes:

- The EPE manufacturer, the installer or the owner shall provide a detailed installation procedure with a document number and revision number. The installation procedure shall be included in the RRIMR procedure submission.
 - If the installation procedure includes the use of temper bead in lieu of PWHT, this information shall be clearly presented in the installation procedure.
29. Provide NDE report(s) when applicable (UT, RT, MT, etc.). The report(s) shall include enough measuring points (e.g. map) to properly describe the damage (e.g. local thin area, cracks) on the pressure piping.
 30. Confirm that integrity assessment of the damaged piping was completed. The integrity assessment shall include all necessary testing (e.g. hardness test).
 31. Declare if the registered EPE fitting and submitted RRIMR procedure are in compliance with the requirements of Tables 1 and 2.
 32. Provide any other information that the plant owner or EPE installer considers necessary to describe the RRIMR procedure and to determine its suitability for the intended service.
 33. Provide the name, company position, and other contact information from whoever the company's director or manager will assign as EPE installer representative for installation procedure.
 34. Provide the name, company position, and other contact information from whoever the company's director or manager will assign as owner representative for RRIMR.
 35. Provide the name, company position, and other contact information from whoever the company's director or manager will assign as owner representative for information included in the GER form.