Alberta Municipal Affairs

ABSA
the pressure equipment safety authority

Information Bulletin No. IB22-018 **October 13, 2022**

INTERPRETATION
Allowance For and Report of Local Thin Areas (LTA's) in Cylindrical Shells and in Spherical Segments

This Information Bulletin replaces IB07-006 which has been withdrawn.

The ASME Pressure Vessel Code, Section I and VIII, makes provision for the acceptance of small areas of a cylindrical shell or the spherical portions of dished heads that are below the minimum required thickness determined by the applicable thickness formulae for the vessel (see Appendix IV of Section I & Appendix 32 of Section VIII, Division 1). Part 4: Design by Rule Requirements of ASME Section VIII, Division 2 requires detailed stress analysis of such areas as part of the design. These areas are known as local thin areas or LTA's.

For LTA's to be accepted in any pressure vessel shell, the following provisions must be met:

(1) The ultimate owner of the vessel must be advised of, and agree to accept, the vessel that contains one or more LTA's. It is the responsibility of the vessel manufacturer or seller, as the case may be, to advise the purchaser of the vessel.

(2) The location, depth and outline of the LTA's must be provided to the ultimate owner of the vessel.

(3) The Authorized Inspector must have accepted that the LTA or LTA's meet the acceptance criteria of the Code of construction. The full requirements of the Code shall have been met.

(4) The information required in (2) above and the Code required measures must be added to an as-built drawing and that drawing shall be submitted to ABSA's Design Survey Department for acceptance. The Canadian Registration Number for the design will be restricted to the one vessel or, if appropriate, a new CRN will be issued.

(5) The information required in (2) above shall be accurately described under Remarks on the Manufacturer's Data Report for the vessel or included as a Supplemental Sheet to the Manufacturer's Data Report for the vessel.

BACKGROUND

LTA's are generally filled with weld-metal build-up during the fabrication of the vessel, but are sometimes accidentally generated after hydrostatic testing or postweld heat treatment and could be impractical to fill with weld metal at such a stage of fabrication. This Interpretation is issued to clarify and reaffirm the Alberta requirements for the acceptance of LTA's.

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