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ALERT

Air/Gas Dryer Vessel Failures

In the interest of public safety, owners of air or gas dryer vessels or other vessels that are in cyclic service are hereby alerted of the potential for fatigue failure of the vessels, particularly in the longitudinal weld seams. In all cases, owners with equipment in cyclic service must take the appropriate and necessary steps to mitigate fatigue as a possible cause of equipment failure.

There have been a number of recent failures of air or gas dryer vessels in Alberta. The vessels were 10" and 12" diameter and had a volume less than 500 litres. All of the failed vessels had been manufactured from rolled steel sheet material with a longitudinal weld seam in the shell. We understand that the cyclic service these vessels experience was not considered in their design. While these vessels must be designed and constructed in accordance with the codes and standards adopted by regulations under the Safety Codes Act, many of these vessels would be of a size and pressure rating that would not require them to have a Certificate of Inspection or (A) Number issued by ABSA.

Specifically for dryer vessels manufactured of rolled and welded sheet or plate by Steel Fab, a Division of Samuel Manu-Tech Inc., and other vessels of similar description, unless it can be shown that the vessels were designed for a longer life by fatigue analysis, these vessels may not be used for longer than ten (10) years from the date of manufacture, after which

- the vessel shall be destroyed, or
- the vessel shall be thoroughly inspected for cracks, especially the longitudinal weld(s). Weld seam examination shall include the full length of the seam and shall be by radiography per paragraph UW-51 of ASME Boiler and Pressure Vessel Code, Section VIII, Division 1, or ultrasonic examination per Appendix 12 of ASME Section VIII, Division 1. No cracking is permitted.

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