



Department of Industrial Relations
Division of Occupational Safety and Health
PRESSURE VESSEL UNIT
1515 Clay Street, Suite 1302
Oakland, CA 94612
Phone: 510-622-3052
Fax: 510-622-3063

April 1, 2001

Circular Letter PV – 2001-1

Effective Date: April-1-2001

To: All Companies Employing California Qualified Inspectors, Refineries, and Power Generation Facilities.

Subject: Alterations that De-rate, or Re-rate any ASME Pressure Vessel

This Circular Letter is to supplement Circular Letter PV-98-1 and outlines requirements necessary to de-rate or re-rate any ASME Pressure Vessel.

Before De-rating or Re-rating any ASME Pressure Vessel a request from the owner/user shall be made to the Principal Pressure Vessel Engineer at the address above per R-503, National Board Inspection Code 1992 Edition and RC-3022 of the NBIC 1998 Edition. The following information shall be included in a request from the Owner/User:

- (a) The reason for the de-rate/re-rate.
- (b) The original MAWP and Temperature and the new MAWP and Temperature to be altered to.
- (c) Will the de-rate/re-rate include any physical changes to the vessel?

A package of information shall be submitted from the Owner/User or Company Making the Alteration that includes:

- (a) A discussion of engineering practices that supports the re-rate. If the vessel is to be reduced in pressure due to wasting of any type, a report by a metallurgical engineer shall be provided.
- (b) A service history including past, present and future operating conditions of the vessel.
- (c) A vessel fabrication drawing for checking on all details.
- (d) A copy of the Original Manufacturer's Data Report.
- (e) A copy of any R-1 or R-2's outlining previous repairs or alterations made to the vessel.
- (f) A discussion of why previous repairs or alterations were made.

- (g) Calculations (made by an engineer familiar with the design of boilers /pressure vessels) made to support the re-rate based on the section and edition of the ASME Code in effect at the time of **original** construction.
- (h) A current ultrasonic examination with the name and qualifications of the ultrasonic examination technician.. This report shall cover all Pressure boundaries, such as shell, heads, nozzles, re-enforcement etc. and locations where corrosion and deterioration exist. Insulation must be removed.
- (i) A rubbing or photo of the original ASME nameplate and any “R” plates attached to the vessel.
- (j) Current and past inspection records to verify the pressure retaining item is satisfactory for the proposed service condition.
- (k) An inspection report, from an inspector with a California Certificate of Competency employed by the National Board/ASME Certificate Holder performing the Alteration or the Owner/User owning/using the vessel. The Inspector shall submit a report to certify at a minimum that: the nameplates, vessel dimensions and thickness, flange ratings and dimensions, attachments (clips, angles, structural), bolting specifications, quantity and location of nozzles, and areas of previous repairs are as noted in the paperwork submitted. The report shall include inspection of all welds and pressure retaining parts to be re-rated/de-rated, including tube bundles and floating heads. The report shall be dated, signed and the Inspector’s California C of C Number included.
- (l) The calculated maximum inspection intervals, and an estimate of the remaining life of the vessel.
- (m) Finally, the Owner/User shall send a description of the new safety relieving devices and controls that will assure safe operation of the vessel in the newly calculated temperature/pressure range.

Note: De-rating/re-rating to a different “Factor of Safety” or “Design Factor” than that required by the original ASME Code of Construction is not allowed in California.

After the Division’s review of the de-rate/re-rate package proves satisfactory, a letter allowing the de-rate/re-rate to proceed will be returned to the user. Following completion of the project the following must be submitted:

- (a) A completed R-2 form with a rubbing or picture of the new “R” stamping added to the vessel.,
- (b) The Jurisdictional Number (R-2 Form, line #8) shall be included if the Vessel is a State permitted Boiler, Propane Tank or Air Tank.
- (c) The hydrostatic test pressure applied (R-2 form line #13) shall be filled in.
- (d) The “Design Certification” and “Certificate of Design Change Review” on the back of the R-2 form shall be filled in. The “Construction Certification” and “Certificate of Inspection” must also be filled in if any physical changes were made. The R-2 shall be registered with the National Board.