

FABRICATION NEWS

July 1, 2022

BOARDMAN NEWSLETTER:

We have appreciated the positive feedback to the newsletter we've sent out over the years. We want to continue building strong relationships with our customers and be a resource as the experts in pressure vessel fabrication.

We hope you find this newsletter beneficial as we share tips in the pressure vessel design and construction process.

If there are any topics you would like us to address, please let us know

ASME 2021 Code Change: Appendix 47: Person in Responsible Charge

The 2021 code edition is mandatory as of January 1, 2022. With this edition comes a few unique changes affecting the requirements for vessel designers. For years, the ASME code has required welders and non-destructive examination technicians to be certified to perform work on ASME code vessels. There were no requirements for the personnel tasked with determining the design parameters of Section VIII division I pressure vessels. Well now there is! ASME Section VIII, Section VIII Div. 1 introduced a new mandatory appendix 47 that sets the requirements for pressure vessel designers.

(a) A designer, engineer, or Certifying Engineer (see 3-2), designated by the Manufacturer, shall be in responsible charge⁷⁹ of the design of a pressure vessel that is certified by that Manufacturer.

(b) The person in responsible charge of design activities shall be experienced as described in the use of this Division.

(c) The qualifications and experience required of the person in responsible charge of design activities will depend on the design complexity⁷² of the pressure vessel and the nature of the individual's experience.

This addition raises the bar for fabricators of pressure vessels as they now must employ or subcontract skilled and experienced vessel designers.

Question 1: What is the difference between designer, engineer and certifying engineer?

Answer: Appendix 47 outlines the educational requirements for each designation:

- Certifying Engineer: Chartered, Registered, or Licensed Professional Engineer
- Engineer: 4-year degree from an accredited university or college in engineering, science, or technology.
- Designer: 2-year degree from an accredited engineering technician or associates degree.

Appendix 47 also includes requirements for years of experience. 47-2 outlines years of experience, however 47-3 provides alternative qualifications to allow the manufacturer to determine minimum years of experience based on how their company operates.

Question 2: Does Appendix 47 require manufacturers to have a Certifying Engineer on staff?

Answer: No.

If your project requires any of the items listed in Table 47-5-1, a certifying engineer may engage or be in responsible charge. However, an engineer or designer can be in responsible charge if they meet the additional requirements listed in 47-5. Each design activity for Table 47-5-1 has specific requested outlined in this section.

Question 3: What Design Activities are listed in Table 47-5-1?

Answer:

- Numerical Analysis
- Fatigue Assessments (elastic stress analysis or elastic-plastic stress analysis)
- Design due to seismic reactions (linear and nonlinear response history procedure)
- Quick-actuating closures
- Design not specifically addressed in ASME Section VIII Division 1

BOARDMAN'S ENGINEERING SEMINAR



On April 19-20, we hosted 20 engineers from 10 different customers around the country. It was a great group that was very engaged in the classroom and shop time. We all enjoyed the opportunity to build relationships during the evening networking event. We plan to continue the training again in April 2023. Spot fill up quickly so please let me know if you're interested in attending, or have other engineers you would like to send to Boardman. We're happy to provide feedback received from past seminars so you can see the benefit each class has received.



"Watching the NDE exhibitions was really valuable. Also getting to hear EPC's, Owner's, and Fabricator's preferences is something that is good to keep in mind moving forward."

"I'm very appreciative of the Boardman Team for continuing to host the Engineering Seminar and sharing their expertise with the pressure vessel industry. The two days were jam-packed and every minute was worthwhile."

We would love to hear from you and have an opportunity to quote your next project

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