

Policy Advisory Request Form

Date: 03/25/2018

Name of Requestor: Anonymous

Contact Information:



Please state your request and include specific details on the situation that has prompted this request. Attach any additional information that will help us to understand your request:

In the engineering and design of petrochemical facilities there are several drawings, specifications, and documents that contribute to the design of the piping systems. Many are produced by the Piping Engineers and Designers, however, some are created by the Process Engineers. Below is a list with a brief description of their purpose:

- 1) Process and Instrument Diagrams** - These drawings form the cornerstone for the petrochemical plant. They define the equipment, piping, and instrumentation. They specify all of the control valves needed to safely operate and shutdown the plant in an emergency. These drawings are produced by the Process Engineer.
- 2) Line List** - This is a listing of all of the lines of piping that run from equipment-to-equipment. It is populated with design pressures, design temperatures, insulation thicknesses, piping material specifications, test pressures, level of non-destructive examination such as radiography, heat treatment requirements, and level of pipe stress analysis. This document is a joint effort by the Process Engineer and the Piping Engineer.
- 3) Piping Material Specifications** - These documents specify the type of pipe, piping components, necessary wall thicknesses, branch reinforcement, metallurgy, and pressure/temperature tables to be used for a given service.
- 4) Piping Stress Analysis Specification** - Outlines the criteria to be used for the pipe stress analysis. Defines the level of analysis to be performed based on the diameter, temperature, type of connecting load sensitive equipment, and service. It also outlines the allowable load criteria for various types of equipment.
- 5) Pipe Stress Analysis Reports** - Reports that document the maximum stress intensity for sustained loads, thermal expansion, wind, seismic, and any reaction type loads from pressure safety valves and are qualified per the applicable ASME code (i.e. B31.1 or B31.3). Qualification of equipment nozzle loads is documented which may include finite element analysis of nozzles on vessels.

6) Piping Isometric Drawings - These are drawings of the piping that are sent to the pipe fabricator. They represent the requirements of the Process and Instrument Diagrams, Piping Material Specifications, and Pipe Stress Analysis.

Which of these documents should be sealed by a Professional Engineer.

If known, what statute or rule of the Texas Engineering Practice Act addresses this issue?

§137.33 Sealing Procedures

(f) License holders shall affix their seal and original signature or electronic seal and signature with the date on the final version of their engineering work before such work is released from their control.

(1) The signature and date shall not obscure the engineer's name or license number in the seal.

(2) Engineering work required to bear a seal and signature includes the original title sheet of bound engineering reports, specifications, details, calculations or estimates, and each original sheet of plans or drawings regardless of size or binding.

(3) All other engineering work, including but not limited to research reports, opinions, recommendations, evaluations, addenda, documents produced for litigation, and engineering software shall bear the engineer's printed name, date, signature and the designation "P.E." or other terms as described in §137.1 of this chapter (relating to License Holder Designations). A seal may be added on such work if required or at the engineer's discretion.

Who should be invited to participate as a stakeholder in the research of this request?
Please include specific contact information if known.

Texas Board of Professional Engineers
Policy Advisory
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