Regulatory Analysis

Notice of Intended Action to be published: Iowa Administrative Code 875—Chapter 96
"Unfired Steam Pressure Vessels"

Iowa Code section(s) or chapter(s) authorizing rulemaking: 89.14
State or federal law(s) implemented by the rulemaking: Executive Order 10

Public Hearing

A public hearing at which persons may present their views orally or in writing will be held as follows:

October 22, 2024 9 to 9:30 a.m.	Lake Conference Room 6200 Park Avenue, Suite 100 Des Moines, Iowa

Public Comment

Any interested person may submit written or oral comments concerning this Regulatory Analysis. Written or oral comments in response to this Regulatory Analysis must be received by the Labor Services Division no later than 4:30 p.m. on the date of the public hearing. Comments should be directed to:

Mitchell Mahan
Iowa Department of Inspections, Appeals, and Licensing
6200 Park Avenue, Suite 100
Des Moines, Iowa 50321-1270
Phone: 515.443.1051
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Purpose and Summary

This proposed rulemaking rescinds Chapter 96 in accordance with the goals and directives of Executive Order 10. Proposed Chapter 96 provides the applicable standards and the maximum allowable working pressure for unfired steam pressure vessels installed prior to July 1, 1983.

Analysis of Impact

1. Persons affected by the proposed rulemaking:

- Classes of persons that will bear the costs of the proposed rulemaking:

Owners of the covered steam pressure vessels will bear the costs.

- Classes of persons that will benefit from the proposed rulemaking:

The public and anyone potentially in harm's way of a destructive failure of a pressure vessel covered by this chapter will benefit.

2. Impact of the proposed rulemaking, economic or otherwise, including the nature and amount of all the different kinds of costs that would be incurred:

- Quantitative description of impact:

The rulemaking requires certain costs related to manufacturing standards, inspection and maintenance.

- Qualitative description of impact:

There is no known qualitative impact.

3. Costs to the State:

- Implementation and enforcement costs borne by the agency or any other agency:

The agency has costs associated with running the Elevator, Boiler, and Amusements section.

- Anticipated effect on state revenues:

The rulemaking has no anticipated fiscal impact.

4. Comparison of the costs and benefits of the proposed rulemaking to the costs and benefits of inaction:

The benefit of safe pressure vessels outweighs the costs.

5. Determination whether less costly methods or less intrusive methods exist for achieving the purpose of the proposed rulemaking:

The Department has not identified any less costly or less intrusive methods.

6. Alternative methods considered by the agency:

- Description of any alternative methods that were seriously considered by the agency:

No alternative methods were seriously considered.

- Reasons why alternative methods were rejected in favor of the proposed rulemaking:

Not applicable.

Small Business Impact

If the rulemaking will have a substantial impact on small business, include a discussion of whether it would be feasible and practicable to do any of the following to reduce the impact of the rulemaking on small business:

- Establish less stringent compliance or reporting requirements in the rulemaking for small business.
- Establish less stringent schedules or deadlines in the rulemaking for compliance or reporting requirements for small business.
- Consolidate or simplify the rulemaking's compliance or reporting requirements for small business.
- Establish performance standards to replace design or operational standards in the rulemaking for small business.
- Exempt small business from any or all requirements of the rulemaking.

If legal and feasible, how does the rulemaking use a method discussed above to reduce the substantial impact on small business?

The rules do not have a substantial impact on small business.

Text of Proposed Rulemaking

ITEM 1. Rescind 875—Chapter 96 and adopt the following **new** chapter in lieu thereof:

CHAPTER 96
UNFIRED STEAM PRESSURE VESSELS

875—96.1(89) Codes adopted by reference. The codes listed in 875—Chapter 91 apply to objects covered by this chapter.

875—96.2(89) Objects installed prior to July 1, 1983—requirements.

96.2(1) *Maximum allowable working pressure.*

a. The maximum allowable working pressure for code-stamped unfired steam pressure vessels will be determined in accordance with the applicable provisions of the ASME Code or American Petroleum Institute Code under which they were constructed and stamped.

b. The maximum allowable working pressure on the shell of unfired steam pressure vessels without a code stamp will be determined by the following equation:

$\frac{TStE}{RFS}$ Maximum allowable working pressure, psig.

Where:

TS = Ultimate tensile strength of shell plate(s), psig. When the tensile strength of a steel plate(s) is unknown, it shall be taken as 55,000 psig for temperatures not exceeding 650 degrees F.

t = Minimum thickness of shell plates of the weakest course, in inches.

E = Efficiency of longitudinal joint. For riveted joints, use ASME Code, Section 1 (1971). For fusion-welded and brazed joints, use the following table:

Single lap welded 40
Double lap welded 60
Single butt welded 60
Double butt welded. 75
Forge welded 70
Brazed steel. 80

R = Inside radius of the weakest course of shell or drum in inches, provided the thickness does not exceed 10 percent of the radius. If the thickness is over 10 percent of the radius, the outer radius shall be used.

FS = Factor of safety shall be four.

c. The maximum allowable working pressure for unfired steam pressure vessels without an ASME stamp subjected to external or collapsing pressure will be determined by the ASME Code, Section VIII.

96.2(2) *End closures.* The maximum allowable working pressure permitted for formed heads under pressure will be determined by using the formulas in ASME Code, Section VIII.

96.2(3) *Safety appliances.* Each unfired steam pressure vessel will be protected by such safety and relief valves and indicating and controlling devices as will ensure its safe operation. Valves will not readily be rendered inoperative. The relieving capacity of safety valves will be such as to prevent a rise of pressure in the vessel of more than 10 percent above maximum allowable working pressure, taking into account the effect of static head. Safety valve discharges will be carried to a safe place.

These rules are intended to implement Iowa Code chapter 89.