The ASME Code contains eleven sections

Section	Title
I	Power Boilers
II	Material Specifications
III	Nuclear Vessels
IV	Heating Boilers
V	Non-Destructive Examination
VI	Recommended Rules for Care and Operation of Heating Boilers
VII	Unfired Pressure Vessels
VIII	Division I—Pressure Vessels Division II—Pressure Vessels (Alternate Rules)
IX	Welding Qualifications
X	Fiberglass-Reinforced Plastic Vessels
XI	Rules for Inservice Inspection of Nuclear Reactor Coolant Systems

Any or all of these sections may be obtained by application to the American Society of Mechanical Engineers

When pressure vessels are to be put in, it is usually advisable to secure the services of a competent boiler or unfired pressure vessel engineering consultant He will survey the plant or operation to determine the requirements, design a system that will satisfy them, and supervise installation and testing

If he arranges for the purchase of second-hand boilers or pressure vessels, he should have them inspected by authorized code inspectors who will report on repairs necessary before purchase Arrangements for inspectors can usually be made through the user's insurance agent Also, the government inspection department that has jurisdiction is listed in the *Synopsis* previously mentioned

In general, installation and maintenance should be in accordance with manufacturers' instructions Operating personnel should be trained, not only to operate equipment properly, but also to make routine safety checks and to know when to call in qualified maintenance personnel

Some common causes of failure in pressure vessels which should be anticipated and avoided insofar as possible are

1 Errors in design, construction, and installation

2 Improper operation, human failure, and improper education of operators

3 *Corrosion or erosion of the metal*

4 Mechanical breakdown, failure or blocking of safety devices, and failure or blocking of automatic control devices

5 Water hammer, or carryover of processed material

6 Failure to inspect thoroughly properly, and frequently

7 Improper application of equipment

8 Lack of planned preventive maintenance

In addition to hazards presented by the possibility of their explosion, heating service boilers also present fire hazards They are a significant factor in hotel, store, apartment house, and religious institution fires Particularly, oil-fired equipment is at fault, although losses from explosion of gas-fired equipment have occasionally been catastrophic

The majority of boilers in use are automatically fired, and they operate unattended for long periods Many are not maintained regularly, and their condition is less than perfect Because the boilers are unattended, fires that do start can gain considerable headway unless adequate precautions are installed against them

The means for controlling and containing fires from boilers include

1 Provide a fully enclosed boiler room of fire-resistive construction (⅝ in gypsum wallboard or better) (Be sure to leave sufficient space for maintenance, including pulling of tubes)

2 Provide a fire-resistive ceiling over the boiler, with draft curtains at the perimeter of the ceiling and automatic sprinkler protection

3 Provide proper clearance around exteriors of boiler room walls so that combustible materials are not stored against the walls

In order to minimize low-pressure boiler fires and explosions caused by faulty controls and safety devices

1 Establish a test and servicing program whereby operating controls, safety controls, and safety and relief valves will be tested and maintained at regular intervals