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SENATE BILL NO. 562

Offered January 24, 2000

A BILL to amend and reenact §§ 40.1-51.8 and 40.1-51.19:1 through 40.1-51.19:5 of the Code of Virginia, and to amend the Code of Virginia by adding a section numbered 40.1-51.19:4.1 relating to hobby and model boilers; inspection and testing.

Patrons—Quayle, Couric and Houck

Referred to Committee on Commerce and Labor

Be it enacted by the General Assembly of Virginia:

1. That §§ 40.1-51.8 and 40.1-51.19:1 through 40.1-51.19:5 of the Code of Virginia are amended and reenacted, and that the Code of Virginia is amended by adding a section numbered 40.1-51.19:4.1 as follows:

§ 40.1-51.8. Exemptions.

The provisions of this article shall not apply to any of the following:

1. Boilers or unfired pressure vessels owned or operated by the federal government or any agency thereof;
2. Boilers or fired or unfired pressure vessels used in private residences or apartment houses of less than four apartments;
3. Boilers of railroad companies maintained on railborne vehicles or those used to propel waterborne vessels;
4. ~~Antique~~ *Hobby* or model boilers as defined in § 40.1-51.19:1;
5. Hot water supply boilers, water heaters, and unfired pressure vessels used as hot water supply storage tanks heated by steam or any other indirect means when the following limitations are not exceeded:
 - a. A heat input of 200,000 British thermal units per hour;
 - b. A water temperature of 210° Fahrenheit;
 - c. A water-containing capacity of 120 gallons;
6. Unfired pressure vessels containing air only which are located on vehicles or vessels designed and used primarily for transporting passengers or freight;
7. Unfired pressure vessels containing air only, installed on the right-of-way of railroads and used directly in the operation of trains;
8. Unfired pressure vessels used for containing water under pressure when either of the following are not exceeded:
 - a. A design pressure of 300 psi; or
 - b. A design temperature of 210° Fahrenheit;
9. Unfired pressure vessels containing water in combination with air pressure, the compression of which serves only as a cushion, that do not exceed:
 - a. A design pressure of 300 psi;
 - b. A design temperature of 210° Fahrenheit; or
 - c. A water-containing capacity of 120 gallons;
10. Unfired pressure vessels containing air only, providing the volume does not exceed eight cubic feet nor the operating pressure is not greater than 175 pounds;
11. Unfired pressure vessels having an operating pressure not exceeding fifteen pounds with no limitation on size;
12. Pressure vessels that do not exceed:
 - a. Five cubic feet in volume and 250 pounds per square inch gauge pressure;
 - b. One and one-half cubic feet in volume and 600 pounds per square inch gauge pressure; and
 - c. An inside diameter of six inches with no limitations on gauge pressure;
13. Pressure vessels used for transportation or storage of compressed gases when constructed in compliance with the specifications of the United States Department of Transportation and when charged with gas marked, maintained, and periodically requalified for use, as required by appropriate regulations of the United States Department of Transportation; all others shall be used in accordance with Chapter 7 (§ 27-86 et seq.) of Title 27;
14. Unfired pressure vessels used in and as a part of electric substations owned or operated by an electric utility, provided such electric substation is enclosed, locked, and inaccessible to the public; or
15. Coil type hot water boilers without any steam space where water flashes into steam when released through a manually operated nozzle, unless steam is generated within the coil or unless one of

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the following limitations is exceeded:

- a. Three-fourths inch diameter tubing or pipe size with no drums or headers attached;
- b. Nominal water containing capacity not exceeding six gallons; and
- c. Water temperature not exceeding 350° Fahrenheit.

Article 2.

~~Antique~~ Hobby and Model Boilers.

§ 40.1-51.19:1. Definitions.

As used in this article:

"~~Antique~~ Hobby boiler" means any boiler used solely for demonstration, exhibition, ceremonial or educational purposes, including but not limited to, historical artifacts such as portable and stationary show boilers, farm traction engines, and locomotives.

"Model boiler" means any boiler fabricated to demonstrate an original design or to reproduce or replicate a historic artifact, and used primarily for demonstration, exhibition, or educational purposes.

§ 40.1-51.19:2. Applicability.

~~Antique~~ Hobby and model boilers may continue in operation but shall be in compliance with the provisions of this article by July 1, 2000.

§ 40.1-51.19:3. Inspection and testing.

A. ~~An antique~~ A hobby or model boiler shall be inspected every two years *inclusive*. It shall be the duty of the owner of any ~~antique~~ hobby or model boiler to obtain and display an inspection certificate. *A hobby or model boiler can be placed in nonoperating status upon written notification to the chief inspector. Normal inspection procedures apply when reinstating the boiler.*

B. The inspection of every ~~antique~~ hobby or model boiler shall include an examination of or for the following:

1. The fusible plug (*if provided for in the original design*).
2. The safety valve or valves. Such valve or valves shall be (i) rated by the American Society of Mechanical Engineers (ASME), (ii) set at or below the maximum allowable working pressure, and (iii) sealed in a manner that does not allow tampering with the valve without destroying the seal.
3. Internal corrosion.
4. Leakage.
5. The boiler power piping, up to and including the first valve.

C. ~~An antique~~ A hobby or model boiler shall be subjected to nondestructive testing, at the owner's expense, to determine the maximum allowable working pressure in accordance with Boiler and Pressure Vessel rules and regulations *Regulations* (16 VAC 25-50-10 et seq.).

D. All ~~antique~~ hobby and model boilers shall pass a hydrostatic test at ~~one and one-half~~ maximum allowable working pressure, ~~conducted in the presence of an inspector, at the time of certification and as frequently as determined by the inspection certificate and as deemed necessary based on inspections or other evidence.~~ ~~An antique~~ A hobby or model boiler that does not meet the requirements of the ASME code and is not ~~certified~~ *registered* in the Commonwealth, shall, at the owner's expense, be tested to ~~twice one and one-half times~~ the maximum allowable working pressure and, to be operated, shall have a successful (i) *for lap seam boilers only*, complete radiographic or ultrasonic examination of the long or longitudinal seam; (ii) ultrasonic examination for metal thickness, and for the purpose of calculating the maximum allowable working pressure, the thinnest reading shall be used; and (iii) ~~dye penetrant for~~ *hobby boilers with lap seam construction, magnetic particle* examination for cracks with a ~~magnetic particle~~, ultrasonic, or radiographic examination of areas where ~~dye penetrant~~ testing shows possible cracks.

The requirements of this subsection for *testing to one and one-half the maximum allowable working pressure or full radiographic or ultrasonic examination* may be waived after the initial inspection if the inspector finds that the general standards of subsection B are met and the safety valve or valves are set at the maximum allowable working pressure determined by *the following*: calculations from the ultrasonic results or 100 pounds per square inch, ~~whichever is lower~~ *maximum allowable working pressure for hobby boilers of lap seam construction; any hobby boiler of butt strap construction shall stand on its own merit as determined by calculations and pressure shall not exceed manufacturer's maximum allowable working pressure or calculations, whichever is lower.* Any butt strap ASME hobby boiler shall be allowed to run at original working pressure or calculations, *whichever is lower.*

E. Any hobby or model boiler holding a current out-of-state inspection certificate shall be accepted by the Commonwealth of Virginia.

§ 40.1-51.19:4. Operations and maintenance.

A. ~~An antique~~ A hobby or model boiler must be attended by a person reasonably competent to operate such boiler when in operation. For the purposes of this section, ~~an antique~~ a hobby or model boiler may be considered as not being in operation when all of the following conditions exist:

1. The water level is at least one-third of the water gauge glass;
2. ~~The header or dome valve is in a closed position;~~

122 3. 2. The fire is banked and the draft doors closed or the fire is extinguished; *and*
123 4. 3. The boiler pressure is at least twenty pounds per square inch below the lowest safety valve set
124 pressure.
125 B. All welding performed on ~~antique~~ hobby or model boilers shall be done by an "R" stamp holder
126 in accordance with the inspection code of the National Board of Boiler and Pressure Vessel Inspectors.
127 C. Repairs to longitudinal riveted joints are prohibited.
128 § 40.1-51.19:4.1. *Variances.*
129 *Upon application pursuant to the provisions of subdivision 9 of § 40.1-6, the Commissioner may*
130 *allow variances from a specific statutory requirement of this article provided the applicant proves by*
131 *clear and convincing evidence his hobby or model boiler meets substantially equivalent construction and*
132 *operating criteria and standards.*
133 § 40.1-51.19:5. Civil penalty.
134 A. It shall be unlawful for any person, firm, partnership or corporation to operate in the
135 Commonwealth an ~~antique~~ a hobby or model boiler without a valid certificate. Any such person shall be
136 subject to a civil penalty as provided by § 40.1-51.12.
137 B. Any owner or user who leaves or causes to leave an antique or model boiler unattended while in
138 operation shall be in violation of this article and subject to a civil penalty not to exceed \$100. Any
139 owner or user who leaves or causes to leave an antique or model boiler unattended while in operation at
140 an event to which members of the general public are invited shall be in violation of this article and
141 subject to a civil penalty not to exceed \$5,000. Each instance of such violation shall be deemed a
142 separate offense.