

000047520

SENATE BILL NO. 562

AMENDMENT IN THE NATURE OF A SUBSTITUTE
(Proposed by the Senate Committee on Commerce and Labor
on February 14, 2000)

(Patrons Prior to Substitute—Senators Quayle and Miller, K.G. [SB 416])

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.*

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 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. *The pressure shall be at one and one-half one-quarter 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 for hobby boilers and twice the maximum allowable working pressure for model boilers and, to be operated, shall have a successful (i) for lap seam and non-standard welded 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, dye penetrant or 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 *hobby boilers only testing to one and one-half times 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. *If a variance is requested for butt strap hobby boilers, the commissioner shall not deny such variance request without a given, valid reason.*

The requirements of this subsection for model boilers only for testing to two times 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 of 100 pounds per square inch, whichever is lower.

Any boiler which has been without a documented inspection within the past twenty years must have a two times maximum allowable working pressure hydro test prior to its operation.

E. Any hobby or model boiler holding a current out-of-state inspection certificate shall be accepted by the Commonwealth of Virginia, provided the inspection standards meet or exceed standards adopted by the Commonwealth.

§ 40.1-51.19:4. Operations and maintenance.

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

- 125 1. The water level is at least one-third of the water gauge glass;
- 126 2. ~~The header or dome valve is in a closed position;~~
- 127 3. The fire is banked and the draft doors closed or the fire is extinguished; *and*
- 128 4. The boiler pressure is at least twenty pounds per square inch below the lowest safety valve set
 129 pressure.

130 B. All welding performed on ~~antique hobby~~ or model boilers shall be done by an "R" stamp holder
 131 in accordance with the inspection code of the National Board of Boiler and Pressure Vessel Inspectors.

132 C. Repairs to longitudinal riveted joints are prohibited.

133 § 40.1-51.19:4.1. Variances.

134 *Upon application pursuant to the provisions of subdivision 9 of § 40.1-6, the Commissioner may*
 135 *allow variances from a specific statutory requirement of this article provided the applicant proves by*
 136 *clear and convincing evidence his hobby or model boiler meets substantially equivalent construction and*
 137 *operating criteria and standards.*

138 § 40.1-51.19:5. Civil penalty.

139 A. It shall be unlawful for any person, firm, partnership or corporation to operate in the
 140 Commonwealth ~~an antique a hobby~~ or model boiler without a valid certificate. Any such person shall be
 141 subject to a civil penalty as provided by § 40.1-51.12.

142 B. Any owner or user who leaves or causes to leave an antique or model boiler unattended while in
 143 operation at an event to which members of the general public are invited shall be in violation of this
 144 article and subject to a civil penalty not to exceed \$5,000. Each instance of such violation shall be
 145 deemed a separate offense.