

Digest of State Boiler, Pressure Vessel, Piping, and Aboveground Storage Tank Rules and Regulations

API PUBLICATION 910
EIGHTH EDITION, NOVEMBER 1997





API ENVIRONMENTAL, HEALTH AND SAFETY MISSION AND GUIDING PRINCIPLES

The members of the American Petroleum Institute are dedicated to continuous efforts to improve the compatibility of our operations with the environment while economically developing energy resources and supplying high quality products and services to consumers. We recognize our responsibility to work with the public, the government, and others to develop and to use natural resources in an environmentally sound manner while protecting the health and safety of our employees and the public. To meet these responsibilities, API members pledge to manage our businesses according to the following principles using sound science to prioritize risks and to implement cost-effective management practices:

- To recognize and to respond to community concerns about our raw materials, products and operations.
- To operate our plants and facilities, and to handle our raw materials and products in a manner that protects the environment, and the safety and health of our employees and the public.
- To make safety, health and environmental considerations a priority in our planning, and our development of new products and processes.
- To advise promptly, appropriate officials, employees, customers and the public of information on significant industry-related safety, health and environmental hazards, and to recommend protective measures.
- To counsel customers, transporters and others in the safe use, transportation and disposal of our raw materials, products and waste materials.
- To economically develop and produce natural resources and to conserve those resources by using energy efficiently.
- To extend knowledge by conducting or supporting research on the safety, health and environmental effects of our raw materials, products, processes and waste materials.
- To commit to reduce overall emissions and waste generation.
- To work with others to resolve problems created by handling and disposal of hazardous substances from our operations.
- To participate with government and others in creating responsible laws, regulations and standards to safeguard the community, workplace and environment.
- To promote these principles and practices by sharing experiences and offering assistance to others who produce, handle, use, transport or dispose of similar raw materials, petroleum products and wastes.

Digest of State Boiler, Pressure Vessel, Piping, and Aboveground Storage Tank Rules and Regulations

Manufacturing Distribution and Marketing Department

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FOREWORD

This digest of State Boiler and Pressure Vessel Rules and Regulations is published to provide information to assist the refining and chemical process industries operating in the United States and Puerto Rico. The digest was compiled under the direction of the Ad Hoc Steering Committee for the Regulatory Action Program of the API Committee on Refinery Equipment.

THE SUMMARY OF BOILER AND PRESSURE VESSEL LAWS AND REGULATIONS IS PROVIDED FOR GENERAL INFORMATION AND NOT AS A BASIS FOR COMPLIANCE.

THIS DIGEST MAY BE USED BY ANYONE DESIRING TO DO SO. EVERY EFFORT HAS BEEN MADE BY THE AMERICAN PETROLEUM INSTITUTE TO ASSURE THE ACCURACY AND RELIABILITY OF THE DATA CONTAINED IN IT; HOWEVER, THE INSTITUTE MAKES NO REPRESENTATION, WARRANTY, OR GUARANTEE IN CONNECTION WITH THE PUBLICATION OF THIS DIGEST AND HEREBY EXPRESSLY DISCLAIMS ANY LIABILITY OR RESPONSIBILITY FOR LOSS OR DAMAGE RESULTING FROM ITS USE OR FOR THE VIOLATION OF ANY FEDERAL, STATE, OR MUNICIPAL REGULATION WITH WHICH THIS DIGEST MAY CONFLICT.

The information provided on state laws and regulations is in summary form only. Questions about the content of individual state laws or regulations should be directed to your legal office or the appropriate agency as listed in the state jurisdiction summary. Copies of the laws and regulations can be obtained from the state department or agency or as noted on the information page of the appropriate section.

Copies of the Digest are available from the API Publications and Distribution Section, 1220 L Street, N.W., Washington, DC 20005.

The API staff contact for information on the Digest can be reached at (202) 682-8000.

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API PRESSURE EQUIPMENT AND ABOVEGROUND STORAGE TANK REGULATORY ACTION
PROGRAM

POLICY

Pressure Equipment

To preserve the ability of the petroleum and chemical process industries to perform construction, classification, maintenance inspection, repair, alteration and rerating procedures for boilers, pressure vessels, and piping used by these industries. The API objective in this program is to advance the adoption and the harmonious application of the ANSI/API 510 (and the National Board Inspection Code (NBIC) as companion standards) and ANSI/API 570 for use in any state, locality, or jurisdiction wherein the petroleum or chemical process industries would be affected by legislation or regulations or code adoption on the subject of boiler, pressure vessel or piping construction, classification, maintenance inspection, repair, alteration and rerating procedures.

ANSI/API 510 and ANSI/API 570 have application to owner-user maintenance inspection, repair, alteration, and rerating procedures for pressure vessels and piping in service by the petroleum and chemical process industries. The NBIC has application for pressure vessels used by other industries. API 510 and the NBIC recognize the application of the other. Both are American National Standards. Both organizations endorse the application of the other code within its proper sphere of application.

Aboveground Storage Tanks

To preserve the ability of the petroleum and chemical process industries to perform maintenance inspection, repair, alteration, relocation, and reconstruction of aboveground storage tanks used by these industries. The API objective in this program is to advance the adoption and the harmonious application of API 653 and RP 12R1 when appropriate for use in any state, locality, or jurisdiction wherein the petroleum or chemical process industries would be affected by legislation or regulations or code adoption on the subject of aboveground storage tank maintenance inspection, repair, alteration, relocation, and reconstruction procedures.

API 653 has application to owner-user maintenance inspection, repair, alteration, relocation, and reconstruction procedures for welded or riveted, non-refrigerated, atmospheric pressure, carbon and low alloy steel tanks built to API Standard 650 and its predecessor 12C after they have been placed in service by the petroleum and chemical process industries.

API RP 12R1 has application to owner-user maintenance, inspection, repair, and alteration procedures for welded or bolted tanks built to API Specifications 12B, 12D, 12F, or 12P in production service.

Revised 11/12/97

LIST OF STATES THAT REFERENCE ANSI/API 510 PRESSURE VESSEL
INSPECTION CODE¹

1. California
2. Colorado
3. Georgia
4. Illinois
5. Indiana
6. Iowa
7. Missouri
8. Nebraska
9. New Jersey
10. New Mexico
11. North Dakota
12. Oklahoma
13. Utah
14. Washington
15. Wisconsin
16. Puerto Rico

LIST OF STATES THAT REFERENCE ANSI/API 570, PIPING INSPECTION CODE¹

1. Colorado

LIST OF STATES THAT REFERENCE ANSI/API 653 TANK INSPECTION, REPAIR, ALTERATION, AND
RECONSTRUCTION

1. Alaska
2. Arkansas
3. Florida
4. Nevada
5. Pennsylvania
6. Virginia
7. Washington

¹ See individual state section of Digest for nature of reference.

GLOSSARY OF TERMS AND ABBREVIATIONS

ANSI	American National Standards Institute
ANSI/API 510	American Petroleum Institute; Pressure Vessel Inspection Code: Maintenance Inspection, Rating, Repair, and Alteration
ANSI/API 570	American Petroleum Institute; Piping Inspection Code: Inspection, Repair, Alteration, and Rerating of In-Service Piping Systems
ANSI/API 653	American Petroleum Institute; Tank Inspection, Repair, Alteration, and Reconstruction
ANSI/NB-23	National Board Inspection Code
API	American Petroleum Institute
API-ASME Code for Unfired Pressure Vessels	Discontinued in 1956
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
Btu/hr.	British Thermal Units per hour
cu. ft.	Cubic feet
DOT	United States Department of Transportation
ft.	Feet
gal.	Gallon
I.D.	Inside diameter
in.	Inches
Industry Association Staff Contact	The State Petroleum Council or Regional Petroleum Association Director or Executive Director. He is responsible for monitoring and reporting regulatory activities.
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
MAWP	Maximum Allowable Working Pressure

GLOSSARY OF TERMS AND ABBREVIATIONS (continued)

MCOGA	Mid-Continent Oil and Gas Association
N/A	Not applicable
NB	National Board of Boiler and Pressure Vessel Inspectors
NBIC	National Board Inspection Code, ANSI NB-23
NFPA	National Fire Protection Association
O.D.	Outside Diameter
OSHA	Occupational Safety and Health Administration

LIST OF PERTINENT ANSI, ASME, AND NFPA CODES

ANSI/ASME	American National Standards Institute and American Society of Mechanical Engineers Codes
B 31.1	Power Piping
B 31.2	Fuel Gas Piping
B 31.3	Chemical Plant and Petroleum Refinery Piping
B 31.5	Refrigeration Piping
B 31.8	Gas Transmission and Distribution Piping Systems
B 31.11	Slurry Transportation Piping Systems
CSD-1	Controls and Safety Devices for Automatically Fired Boilers
ANSI	
Z 21.10.3	Appliances and Gas Burning
Z 21.13	Gas Fired Low Pressure Steam and Hot Water Heating Boilers
Z 21.22	Relief Valves and Automatic Gas Shut-Off Devices for Hot Water Supply Systems
ASME	
Section I	Power Boilers
Section II	Materials Specifications
Section III - (1)	Nuclear Components
Section III - (2)	Concrete Reactor Vessels and Containments
Section IV	Heating Boilers
Section V	Non-Destructive Examination
Section VI	Recommend Rules for Care and Operation of Heating Boilers
Section VII	Recommend Rules for Care of Power Boilers
Section VIII - (1)	Pressure Vessels
Section VIII - (2)	Pressure Vessels - Alternate Rules
Section IX	Welding and Brazing Qualifications
Section X	Fiber Glass Reinforced Plastic Pressure Vessels
Section XI	Rules for In-Service Inspections of Nuclear Power Plant Components

LIST OF PERTINENT ANSI, ASME, AND NFPA CODES
(continued)

NFPA	National Fire Protection Association
30	Flammable and Combustible Liquids Code
30A	Automotive and Marine Service Station Code
31	Installation of Oil Burning Equipment
51	Oxygen-Fuel Gas Systems for Welding, Cutting, and Allied Processes
54	National Fuel Gas Code
58	Storage and Handling of Liquefied Petroleum Gases
59	Storage and Handling of Liquefied Petroleum Gases at Utility Gas Plants
85A	Prevention of Furnace Explosions in Fuel-Oil and Natural Gas-Fired Single Burner Boiler-Furnaces
85B	Prevention of Furnace Explosions in Natural Gas-Fired Multiple Burner Boiler-Furnaces
85D	Prevention of Furnace Explosions in Fuel Oil-Fired Multiple Burner Boiler-Furnaces
85E	Prevention of Furnace Explosions in Pulverized Coal-Fired Multiple Burner Boiler-Furnaces
85F	Installation and Operation of Pulverized Fuel Systems
85G	Furnace Implosions in Multiple Burner Boiler-Furnaces
395	Storage of Flammable and Combustible Liquids on Farms and Isolated Construction Projects

ALABAMAREGULATORY CONTACT INFORMATION
BOILER, PRESSURE VESSEL, AND PIPING RULES AND REGULATIONS

Name of State	Alabama
Laws Involved	None - ASME construction recommended.
Chief Inspector	None
State Department Responsible for Laws and Rules	None
Board of Boiler Rules Membership (* indicates chairman)	None
API Regulatory Action Team	Tim Noack, Field Superintendent UNOCAL Corporation 12303 Roberts Road Churchula, AL 36521-3447 (205) 675-6180
Industry Association Staff Contact	Robert A. Macrory, Executive Director Alabama Petroleum Council P.O. Box 4220 Montgomery, AL 36101 (205) 834-9707

ALABAMA

SUMMARY OF BOILER, PRESSURE VESSEL, PIPING, AND ABOVEGROUND STORAGE TANK RULES
AND REGULATIONS

Summary of Construction Requirements for Boilers and Pressure Vessels

- ** ASME construction is recommended. Presently there are no rules and regulations. Proposed Boiler and Pressure Vessel Safety Act presented during 1991 legislative session --no action subsequently taken to date.

Equipment Requiring Maintenance Inspection

Pertinent Exceptions to Maintenance Inspection

Maintenance Inspector Qualifications

Certificate of Inspection

Miscellaneous

N/A

ALABAMA

ANNUAL SUMMARY OF REGULATORY ACTION

Summary

A bill by Senator Ellis, S.589 -- The Boiler and Pressure Safety Act -- was presented during the 1991 legislative session but the session ended before it could be acted upon. No action has subsequently been taken.

No significant activity reported in 1996.

ALABAMA

ABOVEGROUND STORAGE TANK CONTACT INFORMATION

Industry Contact	Robert A. Macrory Alabama Petroleum Council P.O. Box 4220 Montgomery, AL 36103-4220 (205) 834-9707
Action or Support Team	Al Freiberg UNOCAL Corporation 12303 Roberts Road Chunchula, AL 36521-3447 (205) 679-3430
Additional Information	The Alabama Environmental Management Commission has authorized ADEM staff to initiate rule-making process on technical standards for ASTs.

ALASKA
REGULATORY CONTACT INFORMATION
BOILER, PRESSURE VESSEL, AND PIPING RULES AND REGULATIONS

Name of State	Alaska
Laws Involved	Statutes on Boilers and Pressure Vessels Article 3, AS 18.60.180 - 395 Administrative Rules for Boiler and Pressure Vessel Construction Title 8 (Labor), Part 4, Ch. 80 Articles 1 through 5.
Lead Boiler Inspector	Gerard F. (Jerry) Mankel
Title and Department	Lead Boiler Inspector, Mechanical Inspection Alaska Department of Labor P.O. Box 107020 Anchorage, AK 99510-7020 (907) 269-4925 Fax: (907) 269-4932
State Department Responsible for Laws and Rules	Department of Labor
Board of Boiler Rules Membership (* indicates chairman)	Alaska has no Boiler Board. The following are officers of the Alaska B & PV Inspector Association: Brad Frates, Chairman (UNOCAL) Dave Sepzner, Vice Chairman (ARCO) Kirk Carpenter, Treasurer (VECO)
API Regulatory Action Team	Brad Frates, Chairman UNOCAL Corporation P.O. Box 575 Kenai, AK 99611 (907) 776-3256

ALASKA

REGULATORY CONTACT INFORMATION
BOILER, PRESSURE VESSEL, AND PIPING RULES AND REGULATIONS
(continued)

Industry Association Staff Contact

Judith M. Brady, Executive Director
Alaska Oil and Gas Association
121 West Fireweed Lane
Suite 207
Anchorage, AK 99503
(907) 272-1481

ALASKASUMMARY OF BOILER, PRESSURE VESSEL, PIPING, AND ABOVEGROUND STORAGE TANK RULES
AND REGULATIONS

Summary of Construction Requirements for Boilers and Pressure Vessels

- ** Items Covered
 - Boilers, and unfired pressure vessels.
 - Exceptions noted below.
- ** Codes
 - ASME Boiler & Pressure Vessel Code, 1992 Editions, Sections I-X and ANSI B 31.1.
 - Addenda as of December 31, 1991 are recognized.
 - National Board Inspection Code (NB-23) 1992 Edition for repairs and alterations. First adopted as law by 1990 legislature.
- ** Other
 - Boilers and vessels must have a state serial number and a certificate of inspection.
 - Special designs must be approved by state.
 - Department of Labor keeps a record of the type, dimensions, MAWP, age, condition, location, and date of inspection of boilers and vessels.
- ** Pertinent Exceptions
 - Boilers and vessels under federal control.
 - Vessels under 5 cu. ft. or having an inside diameter not exceeding 6 inches.
 - Vessels designed for a working pressure under 15 psi. not in a place of public assembly.

Equipment Requiring Maintenance Inspection

- ** Items Covered
 - Boilers, and unfired pressure vessels.
 - Exceptions noted below.
- ** Frequency
 - Power boilers -- annual certificate inspection.
 - L.P. Boilers -- biennial with internal inspection every 4 years.
 - Vessels -- external and internal at intervals set by the state (internal inspection may be waived for non-corrosive service).
 - A report of each inspection must be made within 30 days.

Pertinent Exceptions to Maintenance Inspection

- ** Boilers and vessels on farms/moving equipment.
- ** Vessels containing LPG.

Maintenance Inspector Qualifications

- ** Owner-user inspectors permitted.

ALASKA

SUMMARY OF BOILER, PRESSURE VESSEL, PIPING, AND ABOVEGROUND STORAGE TANK RULES
AND REGULATIONS
(continued)

** Inspectors must pass a written examination (National Board).

Certificate of Inspection

** Boilers and vessels may not be operated without a certificate.

Miscellaneous

** Welded alterations or repairs to boilers or vessels must be performed by a person or organization holding a valid ASME Code Stamp, a current National Board "R" certification, or a letter of authorization signed by the Director of the Division of Labor Standards and Safety.

** The 1992 Edition of the National Board Inspection Code Manual for Boiler and Pressure Vessel Inspectors constitutes the minimum boiler and pressure vessel standard of the state for boilers and pressure vessels after they have received their initial inspection certificates from the Department of Labor.

ALASKA

ANNUAL SUMMARY OF REGULATORY ACTION

Summary

No significant activity reported in 1996.

ALASKA

ABOVEGROUND STORAGE TANK CONTACT INFORMATION

Industry Contact

Action or Support Team

Additional Information

ARIZONA
REGULATORY CONTACT INFORMATION
BOILER, PRESSURE VESSEL, AND PIPING RULES AND REGULATIONS

Name of State	Arizona														
Laws Involved	Arizona Boiler Act ARS Title 23, Chapter 2, Article 11 Arizona Boiler & Lined Hot Water Heater Regulations R4-13-401 through R4-13-406														
Chief Inspector	Thomas E. Rennie														
Title and Department	Chief Boiler Inspector Division of Occupational Safety & Health Industrial Commission of Arizona P.O. Box 19070 Phoenix, AZ 85005-19070 (602) 542-1771														
State Department Responsible for Laws and Rules	Division of Occupational Safety & Health The Industrial Commission of Arizona 800 W. Washington Phoenix, AZ 85007														
The Arizona Boiler Rules and Regulations	The Boiler Advisory Board: <table border="0" style="width: 100%;"> <tr> <td>Gary Gillespie</td> <td>(Owner/Operator)</td> </tr> <tr> <td>William Langdon</td> <td>(Labor)</td> </tr> <tr> <td>Ron Lohrman</td> <td>(Public)</td> </tr> <tr> <td>T. Dean McCook</td> <td>(Industry)</td> </tr> <tr> <td>Roger E. Miller</td> <td>(Management)</td> </tr> <tr> <td>Harold Parish</td> <td>(Industry)</td> </tr> <tr> <td>Vacancy</td> <td>(Utilities)</td> </tr> </table>	Gary Gillespie	(Owner/Operator)	William Langdon	(Labor)	Ron Lohrman	(Public)	T. Dean McCook	(Industry)	Roger E. Miller	(Management)	Harold Parish	(Industry)	Vacancy	(Utilities)
Gary Gillespie	(Owner/Operator)														
William Langdon	(Labor)														
Ron Lohrman	(Public)														
T. Dean McCook	(Industry)														
Roger E. Miller	(Management)														
Harold Parish	(Industry)														
Vacancy	(Utilities)														
There are no oil or chemical members on the board.															
Board of Boiler Rules Secretary															
API Regulatory Action Team	Contact Industry Association representative listed below.														

ARIZONA

REGULATORY CONTACT INFORMATION
BOILER, PRESSURE VESSEL, AND PIPING RULES AND REGULATIONS
(continued)

Industry Association Staff Contact

Michael D. Wang, Manager
Operations and Environment
Western States Petroleum Association
505 North Brand Boulevard
Suite 1400
Glendale, CA 91209
(818) 545-4105

ARIZONASUMMARY OF BOILER, PRESSURE VESSEL, PIPING, AND ABOVEGROUND STORAGE TANK RULES
AND REGULATIONS

Summary of Construction Requirements for Boilers and Pressure Vessels

- ** Items Covered
 - All boilers and lined hot water heaters.
 - Exceptions noted below.
- ** Codes
 - ASME Boiler & Pressure Vessel Code, Sections I, II, IV, V, VI, VII, and IX, 1977.
 - ANSI Z 95.3 (1975) and Z 21.10.3 (1975) with addenda of June 30, 1978 for lined water heaters.
 - ASME Code addenda and interpretations are recognized.
- ** Other
 - Owner/operator must have a copy of the manufacturer's data report on file.
 - Boilers must have a state serial number applied on installation.
 - State approval must be obtained for non-code designs.
 - Owner/operator must notify the state in case of any accident involving an explosion or personal injury.
- ** Pertinent Exceptions
 - Boilers and water heaters under federal control.
 - Boilers and water heaters on Indian Reservations.
 - Pressure vessels.
 - Apartments of less than six units.

Equipment Requiring Maintenance Inspection

- ** Items Covered
 - Power boilers, heating boilers and hot water supply boilers.
 - Exceptions noted below.
- ** Frequency
 - Power boilers - annual internal -- annual external under operating pressure.
 - Heating boilers (not over 15 psi.) -- biennial external and internal where possible.
 - Hot Water Supply boilers (under 160 psi., 250°F) - only an initial certificate inspection is required.
 - A report of each certificate inspection must be filed within 60 days.

Pertinent Exceptions to Maintenance Inspection

- ** Boilers and water heaters under federal control.
- ** Boilers and water heaters on Indian Reservations.
- ** Apartments of less than six units.

ARIZONA

SUMMARY OF BOILER, PRESSURE VESSEL, PIPING, AND ABOVEGROUND STORAGE TANK RULES
AND REGULATIONS

(continued)

Maintenance Inspector Qualifications

- ** There are provisions for owner/user inspectors in the law.
- ** Inspectors must pass a written examination.

Certificate of Inspection

- ** Certificates must be renewed periodically.

Miscellaneous

- ** Repairs to boilers must conform to applicable provisions of the National Board Inspection Code.
- ** Major repairs must be approved by a certified inspector.

ARIZONA

ANNUAL SUMMARY OF REGULATORY ACTION

Summary

Boiler rules were revised April 9, 1992, and now refer to 1989 editions of ASME Sections I, II, IV, and IX and NBIC 1989 edition.

No significant activity reported in 1996.

Arizona has no Section 8 requirements other than OSHA requirements 29 CFR 1910.

ARIZONA

ABOVEGROUND STORAGE TANK CONTACT INFORMATION

Industry Contact

Action or Support Team

Additional Information

ARKANSASREGULATORY CONTACT INFORMATIONBOILER, PRESSURE VESSEL, AND PIPING RULES AND REGULATIONS

Name of State	Arkansas	
Laws Involved	Arkansas Code Annotated Chapter 23, Boiler Inspections Sections 20-23-101 through 20-23-405 and regulations adopted pursuant thereto. General order regulating manufacture, sale, installation, repair, operation, and inspection of steam boilers, hot water heating boilers, hot water supply boilers, and unfired pressure vessels.	
Chief Inspector	None at this time	
Title and Department	Chief Boiler Inspector Boiler Inspection Division Department of Labor 10421 West Markham Little Rock, AK 72205 (501) 682-4513	
State Department Responsible for Laws and Rules	Department of Labor James L. Salkeld, Director	
Board of Boiler Rules Membership (* indicates chairman)	Tom McCollum Richard E. Mille' Bart Strand *None Rex Williams Douglas R. Sikes	(Ammonia Rep.) (Boiler Mfr. Rep.) (Insurance Rep.) (Chief Boiler Inspector) (Operating Engrs. Rep.) (User Rep.)
Board of Boiler Rules Secretary	Boiler Inspection Division Personnel keeps minutes.	
API Regulatory Action Team	M. J. Williams, Chairman Manager Lion Oil Company 1000 McHenry Avenue El Dorado, AR 71730 (501) 864-1320	

ARKANSAS

REGULATORY CONTACT INFORMATION

BOILER, PRESSURE VESSEL, AND PIPING RULES AND REGULATIONS

(continued)

Industry Association Staff Contact

Tom Parker, Executive Director
Arkansas Petroleum Council
#1 Riverfront Place -#460
North Little Rock, AR 72114
(501) 375-9964

ARKANSASSUMMARY OF BOILER, PRESSURE VESSEL, PIPING, AND ABOVEGROUND STORAGE TANK RULES
AND REGULATIONS

Summary of Construction Requirements for Boilers and Pressure Vessels

- ** Applicable ASME Code Construction, inspection by State licensed National Board commissioned inspector, National Board stamp, State serial number, filing of "Notice of shipment" and manufacturer's data report and a certificate of inspection (installation and operating permits) are all required.
- ** All sellers and installers must be licensed by State. Manufacturer's cannot sell directly to users unless approved by licensed installer.
- ** Exemptions to inspection and installation permit requirements.
 - air tanks in garages and service stations.
 - air tanks less than 12 gals. or 150 psig.
 - boilers and pressure vessels under ICC Inspection Regulations.
 - boilers and pressure vessels in residences with 8 or less apartments.
 - pressure vessels less than 15 psig, 5 cu. ft. capacity, or 6 in. I.D.
 - liquefied petroleum gas vessels.
 - further, this act does not regulate boiler and pressure vessels used in the production, distribution, storage or transmission of oil, natural gas, or casinghead gas.

Equipment Requiring Maintenance Inspection

- ** All boiler and pressure vessels not exempted from above construction inspection and permit requirements.
- ** Boilers require annual internal and external inspection.
- ** Unfired pressure vessels require biennial internal and external inspection.

Pertinent Exceptions to Maintenance Inspection

- ** Same items exempted from construction inspection and installation permits.

Maintenance Inspector Qualifications

- ** Must be State Inspector or an Insurance Inspector with a National Board and Arkansas Commission.

Certificate of Inspection

- ** Required annually for boilers and biennially for unfired pressure vessels. After payment of fees an "operating permit" will be issued.

ARKANSASSUMMARY OF BOILER, PRESSURE VESSEL, PIPING, AND ABOVEGROUND STORAGE TANK RULES
AND REGULATIONS

(continued)

Miscellaneous

- ** There are special requirements for anhydrous ammonia equipment and facilities.
- ** Major and all welding repairs must have prior State approval and be done per ASME and National Board Inspection Code and must be accomplished by a licensed repair organization.
- ** Chief Inspector can modify or exempt rules if equivalent safety is provided.
- ** Plants with qualified maintenance personnel may repair their own boilers but must be licensed.
- ** Authorized Inspectors can shutdown equipment they consider unsafe.
- ** Explosions and accidents must be reported to State.
- ** Boilers over 50 HP and boilers in places of public assembly must be regularly attended by licensed operators.
- ** Manual boilers require constant attendance.
- ** Boiler Advisory Board assists in formation of Rules and Regulations and in the examinations as well as counseling the Chief Inspector.
- ** The Rules and Regulations become law upon approval by the Director of Labor.

ARKANSAS

ANNUAL SUMMARY OF REGULATORY ACTION

Summary

Effective January 1994, "pressure piping" as related to boilers and pressure vessels will become law.

Hot water heaters 200,000 Btu and below do not have to be ASME/NB constructed, but if located in schools, hospitals, nursing homes, and places of public assembly they must be inspected.

ARKANSASABOVEGROUND STORAGE TANK CONTACT INFORMATION

Industry Contact	Tom V. Parker, Executive Director Arkansas Petroleum Council One Riverfront Place, #460 North Little Rock, AR 72114
Action or Support Team	None
Additional Information	There are no state regulations covering ASTs. Arkansas does, however, require registration of ASTs under Act 594 of 1991 which also requires UST registration. Ten dollars of the tank registration fee goes to the State Fire Marshall, Ray Carnahan, whose office issues AST permits based on Federal Fire Code and structural requirements. Farm tanks and mobile tanks are not required to be registered.

CALIFORNIAREGULATORY CONTACT INFORMATION
BOILER, PRESSURE VESSEL, AND PIPING RULES AND REGULATIONS

Name of State California

Laws Involved The following Title 8, California Administrative Code (CAC), Chapter 4, Subchapters apply:

Subchapter 1 -	Unfired Pressure Vessels (Includes special rules for air, LPG, LNG and ammonia)
Subchapter 2 -	Boilers and Fired Pressure Vessels
Subchapter 3 -	Compressed Air
Subchapter 14 -	Petroleum - Drilling and Production
Subchapter 15 -	Petroleum - Refining, Transportation, and Handling

Chief Inspector John A. Lemire¹

¹Contacts with state officials by those outside of California should be made through the Western States Petroleum Association in Glendale, California.

Title and Department Principal Safety Engineer
Department of Industrial Relations
Division of Occupational Safety and Health
Pressure Vessel Section
(415) 557-1878
Fax: (415) 557-2523

State Department Responsible
for Laws and Rules Department of Industrial Relations
Occupational Safety & Health Standards Board
John D. Mac Leod , Executive Officer
1300 I Street, Suite 940
Sacramento, CA 95814
(916) 322-5080
Fax: (916) 445-6331

CALIFORNIA
REGULATORY CONTACT INFORMATION
BOILER, PRESSURE VESSEL, AND PIPING RULES AND REGULATIONS
 (continued)

Board of Boiler Rules Membership

California has no Boiler Board. The Department of Industrial Relations has the power to make, alter and amend the boiler and pressure vessel regulations.

API Regulatory Action Team

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CALIFORNIA

REGULATORY CONTACT INFORMATION

BOILER, PRESSURE VESSEL, AND PIPING RULES AND REGULATIONS

(continued)

Industry Association Staff Contact

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CALIFORNIASUMMARY OF BOILER, PRESSURE VESSEL, PIPING, AND ABOVEGROUND STORAGE TANK RULES
AND REGULATIONS

Summary of Construction Requirements for Boilers and Pressure Vessels

**** Items Covered**

- Power boilers, low pressure boilers, and unfired pressure vessels.
- NOTE: California pressure vessel rules vary according to the service. Special rules apply to air tanks, LPG vessels, liquid and compressed natural gas and anhydrous ammonia vessels. Appropriate sections of the Safety Orders should be consulted.

**** Codes**

- ASME Boiler and Pressure Code Sections I-XI (primarily 1977 Edition).
- Addenda are recognized except PG-39 and PW-35 (1974 Edition).

**** Other**

- Basically all boilers and vessels must be designed and built to applicable ASME Codes.
- Boilers, LPG vessels, and air tanks must have a state serial number.
- Special (non-code) designs must be approved by state.
- Boilers and unfired pressure vessels shall be registered with the National Board. Manufacturers are required to file Manufacturers Data report with the Division of Occupational Safety and Health before vessel is installed.

**** Pertinent Exceptions**

- Boilers and vessels under federal control.
- Air tanks under 150 psi. and 1.5 cu. ft. (must have relief valve).
- Vessels under 15 psi. (except LNG) and under 6 in. diameter.

Equipment Requiring Maintenance Inspection

**** Items Covered**

- Power boilers, low pressure boilers and some unfired pressure vessels. Exceptions noted below.

**** Frequency**

- Power boilers - annual, internal and external inspections (with state approval, internal inspection intervals may be extended to 36 months).
- Power Boilers - with state approval, the internal inspection interval may be extended to 36 months.
- LPG Vessels - every 3 years. (Vessels 30 gals. or less, and LPG installations up to the point of delivery to a transportation tank in plants manufacturing LPG are excepted.)
- Air Tanks (portable) - every 3 years.
- Air Tanks (non-portable) - every 5 years.
- Air Tanks - special inspection procedures are stipulated (See Sub Ch. 1 Par. 462).
- Vessels covered by Petroleum Safety Orders at intervals sufficiently frequent to give due consideration to corrosion and other factors causing deterioration.

CALIFORNIASUMMARY OF BOILER, PRESSURE VESSEL, PIPING, AND ABOVEGROUND STORAGE TANK RULES
AND REGULATIONS

(continued)

Pertinent Exceptions to Maintenance Inspection

- ** Boilers and vessels under federal control.
- ** Air Tanks under 150 psi. and 25 cu. ft. unless moved or altered.
- ** LPG Vessels - certain small vessels under 575 gals. unless altered.
- ** Boilers - low pressure and miniature.
- ** Boilers - certain boilers under 400,000 Btu/hr. input (See Sub Ch. 2 Par. 771).
- ** Vessels under 15 psi.
- ** Vessels under 6 in. diameter.

Inspector Qualifications

- ** Owner-user inspectors permitted.
- ** Inspectors must pass state exam (The National Board exam is used).

Certificate of Inspection

- ** An operating permit is required for air tanks and LPG vessels (See Sub Ch. 1 Paras. 461 and 470 for exceptions).
- ** Power Boilers (See Sub Ch. 2 Par. 771 for exceptions).

Miscellaneous

- ** Owner-user internal inspections of boilers and air tanks must be reported to the state within 21 days (See Sub Ch. 2 Pars. 770 and 774).
- ** Boiler repairs involving welding (where boiler safety is concerned) must be reported to the state (See Sub Ch. 2 Art. 7 for permissible repair procedures).

CALIFORNIA
ANNUAL SUMMARY OF REGULATORY ACTION

Summary

1. Review of LPG Unfired Pressure Vessel Safety Orders vs. NFPA 58.
2. Review of CNG/LNG Unfired Pressure Vessel Safety Orders.

CALIFORNIA

ABOVEGROUND STORAGE TANK CONTACT INFORMATION

Industry Contact

Action or Support Team

John D. Howell
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Anaheim, CA 92803-6104
(714) 491-6883

Additional Information

COLORADOREGULATORY CONTACT INFORMATIONBOILER, PRESSURE VESSEL, AND PIPING RULES AND REGULATIONS

Name of State	Colorado
Laws Involved	Boiler Inspection Law 1 CRS Title 9, Article 4 Rules have been extracted from the statute, as written.
Chief Inspector	Charles S. Withers
Title and Department	Chief Boiler Inspector Tower 2, Suite 750 1515 Arapahoe S. Denver, CO 80202-2117 (303) 572-2900
Also covers pressure vessels.	
State Department Responsible for Laws and Rules	Department of Labor & Employment Division of Labor Tower 2, Suite 750 1515 Arapahoe S. Denver, CO 80202-2117 (303) 620-4705
Board of Boiler Rules	There is no Board of Boiler Rules at the present time.
API Regulatory Action Team	Kelly J. Smith/James A. Slovacek Conoco, Inc. Denver Refinery 5801 Brighton Boulevard Commerce City, CO 80022 (303) 286-5714
Industry Association Staff Contact	William F. Owens, Executive Director Colorado Petroleum Association Lincoln Tower, Suite 404 1860 Lincoln Street Denver, CO 80295 (303) 860-0099

COLORADOSUMMARY OF BOILER, PRESSURE VESSEL, PIPING, AND ABOVEGROUND STORAGE TANK RULES
AND REGULATIONS

Summary of Construction Requirements for Boilers and Pressure Vessels

- ** Items Covered
 - Boilers and pressure vessels.
 - Exceptions noted below.
- ** Codes
 - ASME Boiler & Pressure Vessel Code, 1968 by reference in the law, extend by reference to the currently published Edition and mandatory addenda.
 - Addenda and interpretations are recognized.
- ** Other
 - Power boilers must be registered with the National Board.
 - Boilers must be inspected by a state employed inspector who shall assign a state serial number for registration purposes.
 - Special designs not covered by ASME codes must be reviewed for approval by the state boiler inspection branch.
- ** Pertinent Exception
 - Boilers and vessels under federal control.

Equipment Requiring (Maintenance) Inspection

- ** Items Covered
 - Boilers and service water heaters rated over 200,000 Btu/hr. energy input.
 - Exceptions noted below.
- ** Frequency
 - Boilers and service water heaters rated over 200,000 Btu/hr. energy input - annually.

Pertinent Exceptions to (Maintenance) Inspection

- ** Boilers and vessels under federal control.

(Maintenance) Inspector Qualifications

- ** An inspector employed by an insurance company or holding a current National Board Commission and work card may be certified as a "Special Inspector" qualified to perform the annual recertification for boilers (and service water heaters greater than 200,000 Btu/hr.).
- ** Owner-user inspectors with National Board owner-user commissions, or employed by an approved owner-user inspection agency, may do inspections of their own pressure vessels.

COLORADOSUMMARY OF BOILER, PRESSURE VESSEL, PIPING, AND ABOVEGROUND STORAGE TANK RULES
AND REGULATIONS

(continued)

Certificate of Inspection

- ** Boilers and service water heaters greater than 200,000 Btu/hr. may not be operated without a posted inspection certificate (subject to annual renewal).

Miscellaneous

- ** Pressure vessel can be maintained, inspected, rated, or altered in accordance with API 510 and API 570, current editions, when performed under an approved owner-user inspection program.
- ** Boiler repairs must conform to NBIC requirements (current edition).
- ** All repairs and alterations to boilers must be reported to the state.
- ** Organizations performing welded repairs on boilers must hold a current certificate of authorization for the National Board of Boiler and Pressure Vessel Inspectors "R" Program.
- ** Order dated August 1, 1975 adopted current editions of all sections and addenda of ASME Boiler and Pressure Vessel Codes and the National Board Inspection Code for Boiler and Pressure Vessel Inspectors.
- ** Effective November 1, 1996, the state adopted by rule (pursuant to Colorado revised statute 8-1-107 and 9-4-103) the following codes:
- ASME Sections I, III, IV, VIII divisions 1 & 2, X, XI
 - NBIC NB-23
 - API 510, 570
 - ASME CSD-1
 - Also allowed for waiver of rules for pressure vessels located on remote sites when requested thru variance.

COLORADO
ANNUAL SUMMARY OF REGULATORY ACTION

Summary

The statute is currently under review to establish and verify the need for changes during the 1996-1997 fiscal year.

API 570 "Piping Inspection Code" was adopted.

COLORADO

ABOVEGROUND STORAGE TANK CONTACT INFORMATION

Industry Contact

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(303) 860-0099

Action or Support Team

Additional Information

The State Chief Inspector indicated that no activity (to his knowledge) was occurring with regards to ASTs at this time.

CONNECTICUT
REGULATORY CONTACT INFORMATION
BOILER, PRESSURE VESSEL, AND PIPING RULES AND REGULATIONS

Name of State	Connecticut
Laws Involved	Department of Public Safety Division of Fire, Emergency & Building Services Bureau of State Fire Marshall, Title 29, Chapter 540 Steam Boilers Sec. 29-231-244 (latest revision 1996). Administrative Regulations 29-232-1 through 116
Chief Inspector	James W. Corcoran
Title and Department	Supervisor Division of Fire, Emergency & Building Services Bureau of Boilers 1111 Country Club Road P.O. Box 2794 Middletown, CT 06457-9294 (860) 685-8320
State Department Responsible for Laws and Rules	Kenneth H. Kirschner, Commissioner Department of Public Safety Commissioner empowered to formulate Rules and Regulations and Amendments thereto.
Board of Boiler Rules Membership	None
Regulatory Action Team	Contact Industry Association representative listed below.
Industry Association Staff Contact	Thomas Fitzpatrick, Executive Director Connecticut Petroleum Council 55 Farmington Avenue, Suite 704 Hartford, CT 06105 (203) 246-8846

CONNECTICUTSUMMARY OF BOILER, PRESSURE VESSEL, PIPING, AND ABOVEGROUND STORAGE TANK RULES
AND REGULATIONS

Summary of Construction Requirements for Boilers and Pressure Vessels

- ** Boilers
 - ASME Code Sections I, II, III, IV, V, VI, VII, IX, and code cases. All boilers must be registered with the Department and stamped with a Connecticut serial number. Shop inspector must have a Connecticut commission or if outside Connecticut, a National Board commission.
- ** Pressure Vessels
 - Not regulated.

Equipment Requiring Maintenance Inspection

- ** Power Boilers
 - One annual internal. One annual external inspection under operating conditions.
- ** Low Pressure, Hot Water Heating & Supply Boilers inspected externally biannually, and internally at discretion of the inspector.

Pertinent Exceptions to Maintenance Inspection

- ** Public Service companies.
- ** Portable boilers used in pumping, heating, steaming, and drilling in open field.

Maintenance Inspector Qualifications

- ** Various combinations of education and experience are stipulated. Reciprocal commissions issued to insurance inspectors holding approved State or National Board Commission.
- ** National Board Commission is required.
- ** There are no provisions for owner-user inspections.

Certificate of Inspection

- ** Reports of internal and external inspections must be filed with Department within 30 days of inspection.
- ** Certificate of Operation is issued on payment of fee for 12 months for Power Boilers, 24 months for other boilers.

Miscellaneous

- ** All boilers, unless exempted must be registered with the state.
- ** Boiler Operators are required to be licensed in cities of Bridgeport and New Haven.

CONNECTICUT

SUMMARY OF BOILER, PRESSURE VESSEL, PIPING, AND ABOVEGROUND STORAGE TANK RULES
AND REGULATIONS

(continued)

- ** National Board rules for Repairs and Alterations to Boilers and Pressure Vessels by welding are acceptable to the Department.
- ** Connecticut adopts all OSHA regulations.

CONNECTICUT
ANNUAL SUMMARY OF REGULATORY ACTION

Summary

The Connecticut Department of Public Safety revised and updated its boiler regulations in 1996.