

WAC 296-59-080 Installation, inspection, and maintenance of pipes, piping systems, and hoses. (1) Design and installation. All new piping systems intended to be used in hazardous material service must be designed and installed in accordance with applicable provisions of the ASME Code for Pressure Piping or in accordance with applicable provisions of ANSI B31.1 through B31.8. The referenced edition in effect at the time of installation must be utilized.

Note: Both referenced standard have identical requirements.

(2) Inspection and maintenance.

(a) Management must develop a formal program of inspections for all hazardous material piping systems. The program must be based on sound maintenance engineering principles and must demonstrate due consideration for the manufacturing specifications of the pipe, hose, valves, and fittings, the ambient environment of the installation and the corrosive or abrasive effect of the material handled within the system.

(b) Type and frequency of tests and/or inspections and selection of inspection sites must be adequate to give indications that minimum safe design operating tolerances are maintained. The tests may include visual and nondestructive methods.

(c) You must submit your formal program of initial and ongoing inspections to the department for approval within one year after the effective date of this requirement.

(d) All existing hazardous material systems must be inspected to the criteria of this section prior to two years after effective date, or in accordance with a schedule approved by the department.

(3) Inspection records.

(a) Results of inspections and/or tests must be maintained as a record for each system.

(b) Past records may be discarded provided the current inspection report and the immediate preceding two reports are maintained.

(c) When a system is replaced, a new record must be established and all past records may be discarded.

(d) The records for each system must be made available for review by the department upon request.

(e) You may omit the inspection requirements for portions of existing systems that are buried or enclosed in permanent structures in such a manner as to prevent exposure to employees even in the event of a failure.

(4) Systems or sections of systems found to be below the minimum design criteria requirements for the current service must be repaired or replaced with component parts and methods which equal the requirements for new installations.

(5) Identification of piping systems.

(a) Pipes containing hazardous materials must be identified. It is recommended that USAS A13.1 "Scheme for Identification of Piping Systems" be followed.

(b) Positive identification of piping system content must be identified by lettered legend giving the name of the content in full or abbreviated form, or a commonly used identification system. Such identification must be made and maintained at suitable intervals and at valves, fittings, and on both sides of walls or floors. Arrows may be used to indicate the direction of flow. Where it is desirable or necessary to give supplementary information such as hazard of use of the piping system content, this may be done by additional legend or by

color applied to the entire piping system or as colored bands. Legends may be placed on colored bands.

Examples of legends which may give both positive identification and supplementary information regarding hazards or use are:

Ammonia	Hazardous liquid or gas
Chlorine	Hazardous liquid or gas
Liquid caustic	Hazardous liquid
Sulphuric acid	Hazardous liquid
Natural gas	Flammable/explosive gas

Note: Manual L-1, published by Chemical Manufacturers Association, Inc., is a valuable guide in respect to supplementary legend.

(c) When color, applied to the entire piping system or as colored bands, is used to give supplementary information it should conform to the following:

CLASSIFICATION	PREDOMINANT COLOR
F-Fire-protection equipment	Red
D-Dangerous materials	Yellow (or orange)
S-Safe materials	Green (or the achromatic colors, white, black, gray, or aluminum)
And, when required, P-Protective materials	Bright blue

(d) Legend boards showing the color and identification scheme in use must be prominently displayed at each plant. They must be located so that employees who may be exposed to hazardous material piping systems will have a frequent reminder of the identification program.

(e) All employees who work in the area of hazardous material piping systems must be given training in the color and identification scheme in use.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 17-16-132, § 296-59-080, filed 8/1/17, effective 9/1/17. Statutory Authority: Chapter 49.17 RCW. WSR 88-14-108 (Order 88-11), § 296-59-080, filed 7/6/88.]