

522 CMR 17.00: PIPING

Section

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17.01: Purpose

522 CMR 17.00 is necessary to protect the lives, property and public safety of the people of the Commonwealth, and to help in the conservation of our natural resources and environment, by the proper installation, modification, and disassembly for reuse of piping systems and/or equipment used to generate energy, heat, cooling, manufactured products, and for the conveyance and storage for liquids, solids, industrial gases, and chemical and petroleum products.

17.02: Scope

All piping systems covered by 522 CMR 17.00 shall be constructed using the following standards:

For Power Piping: *ASME B31.1-2014 Power Piping*, the American National Standard Code for Power Piping. This is piping typically found in electric power generating stations, industrial and institutional plants, geothermal heating systems, and central and district heating and cooling systems.

For Process Piping: *ASME B31.3-2014 Process Piping*, the American National Standard Code for Process Piping. This piping is typically found in petroleum refineries, chemical, pharmaceutical, textile, paper, semiconductor, and cryogenic plants, and related processing plants and terminals.

For Refrigeration Piping and Heat Transfer Components: *ASME B31.5-2013 Refrigeration Piping and Heat Transfer Components*, the American National Standard Code for Refrigeration Piping and Heat Transfer Components. This piping is typically used for piping refrigerants and secondary coolants.

For Building Services Piping: *ASME B31.9-2014 Building Service Piping*, the American National Standard Code for Building Service Piping. This piping is typically found in industrial, institutional, commercial, and public buildings, and in multi-unit residences, which does not require the range of sizes, pressures, and temperatures covered in *ASME B31.1-2014 Power Piping*.

17.03: Covered Piping Systems (CPS)

(1) Definition. Covered piping systems (CPS) are piping systems on which condition assessments are to be conducted. As a minimum for electric power generating stations, the CPS also include NPS 4 (DN 100) and larger piping in other systems that have a design temperature greater than 750°F (400°C) or a design pressure greater than 1,025 psi (7.1 MPa).

(2) Requirements. A program shall be established to provide for the assessment and documentation of the condition of all CPS. A condition assessment shall be performed at periodic intervals as determined by an engineering evaluation. Covered piping systems (CPS) shall be included in a Condition Assessment Program as defined in ASME B31.1. Documentation shall include a statement as to any actions necessary for continued safe operation.

17.03: continued

(3) Records. All records pertaining to the condition assessment of CPS shall be kept on file at the location of the CPS, and shall be maintained and accessible to the Division and Authorized Inspectors for the life of the piping systems. The condition assessment records shall consist of, but are not limited to:

- (a) Any procedures required by para. 139;
- (b) Any condition assessment documentation required by para. 140;
- (c) Original, as-built, as-modified, or updated piping drawings;
- (d) Original, as-built, as-modified, or updated pipe support drawings;
- (e) Results from piping stress or flexibility analysis;
- (f) Piping system diagrams (flow, piping and instrumentation, and/or process diagrams);
- (g) Valve and other inline equipment data used in original piping design stress analysis;
- (h) Additional documentation requirements as identified in paras. 141.2 through 141.5; and
- (i) Details of specially designed components (refer to para. 104.7.2), including details of the design, design method, dimensions, weight, and materials; details of the manufacture, fabrication, and welding; and details of the component examinations.

REGULATORY AUTHORITY

522 CMR 17.00: M.G.L. c. 146, §§ 1 through 51, 56 through 64 and 66 through 80.

(PAGES 63 AND 64 ARE RESERVED FOR FUTURE USE.)