



DRAFT STANDARD Z662 Oil and gas pipeline systems

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10.15 Deactivation and reactivation of piping

10.15.1 Deactivation of piping

10.15.1.1

Operating companies deactivating piping shall

- (a) isolate the piping, using blind flanges, weld caps, or blanking plates;
- (b) where required, provide a pressure-relief system; and
- (c) fill the piping with a suitable medium, having regard for the intended duration of the deactivation, the effects of the medium on the integrity of the piping, and the potential consequences of a leak.

10.15.1.2

For deactivated piping, operating companies shall

- (a) maintain external and internal corrosion control as specified in Clause 9;
- (b) where considered appropriate, perform other maintenance activities as specified in Clause 10;
- (c) maintain records as specified in Clauses 9.11 and 10.4; and
- (d) for piping that is deactivated for more than 18 months, annually confirm the suitability of the deactivation methods used, the corrosion control, and other maintenance activities.

10.15.2 Reactivation of piping

10.15.2.1

Prior to reactivating piping, the operating company shall conduct an engineering assessment (see Clause 3.3) to determine whether the piping would be suitable for its intended service.

10.15.2.2

Where the engineering assessment indicates that the piping would not be suitable for its intended service, the operating company shall implement measures necessary to make it suitable before reactivating the piping.

10.16 Abandonment of pipelines and pipe-type storage vessels

10.16.1 General

The decision to abandon a section of a pipeline, whether in place or through removal, shall be made on the basis of a documented abandonment plan that includes the rationale for the abandonment, consideration of regulatory requirements, landowner consultation, effect on terrain and water, road and railway crossings, as well as current and potential land use. The plan shall consider the potential for safety hazards and environmental damage that could be created by ground subsidence, soil admixing or contamination, groundwater contamination, erosion, and the creation of water conduits.

Note: Pipeline Abandonment: A Discussion Paper on Technical and Environmental Issues, National Energy Board, November 1996, Section 2 provides guidance.

10.16.2 Buried pipelines

A buried pipeline that is abandoned in place shall be

- (a) emptied of service fluids;
- (b) purged or appropriately cleaned or both in a manner that leaves no mobile materials remaining in the pipeline;
- (c) physically separated from any in-service piping;
- (d) capped, plugged, or otherwise effectively sealed;
- (e) cut off at pipeline depth; .
- (f) left without any internal pressure;

Note: Pipelines containing liners or constructed of polymeric pipe may require repeat purging and maintenance to accommodate out gassing of hydrocarbon or H₂S. See clause 13.2.8.6.

10.16.3 Removal of related surface equipment

A buried pipeline that has been abandoned in place shall have all related surface equipment removed to pipeline depth, except where surface equipment is within an existing surface facility that is in continuing operation or deactivated, . . . Pipeline signage may be left in place where deemed appropriate.

Note: Examples of such equipment could be, but are not limited to: pipeline risers, liner vent piping, casing vents, underground valve vaults or valve extenders, inspection bell holes, and cathodic protection rectifiers, test posts, or anode wiring.

10.16.4 Above Ground Pipelines

Abandoned above ground pipelines and all related surface equipment shall be removed except where they are part of or within an existing surface facility that is in continuing operation or deactivated. .

10.16.5 Records

Records shall be created and maintained for all of the work conducted to meet the requirements of clauses 10.16.1 through 10.16.3 . Additional records for pipelines that are abandoned in place shall include lengths, diameter, material type (e.g., metallic or non-metallic), spatial characteristics, and where practical, burial depth.

10.17 Abandonment of pipeline related facilities

Pipeline related facilities such as compressors and pump stations shall have all rotating and fixed equipment removed, unless they are still part of an operating or deactivated site. Associated piping, utilities, supports and foundations shall also be removed.

10.17.1 Soil Contamination

Testing for site soil contamination and appropriate remediation may be required.

10.17.2 Underground vaults and closed top pits

Consideration shall be given to the removal of underground vaults and closed-top pits. For those that are to remain:

- (a) walls and floors shall be tested for contamination. Contaminated areas shall be remediated or removed.
- (b) walls shall be removed to an appropriate level below the ground surface
- (c) the insides of the vault shall be filled with clean soil.

10.17.3 Aboveground tanks and pressure vessels

Aboveground storage tanks or pressure vessels shall be positively isolated and emptied of liquids, purged, and safeguarded against trespassing.

10.17.3.1 Aboveground storage tanks or pressure vessels on sites to be abandoned, shall be removed as well as all associated piping, supports, and foundations.

10.17.3.2 Soils in around and underneath storage tanks shall be inspected for contamination and appropriately remediated.

10.17.4 Underground storage tanks

The abandonment of underground tanks shall be as specified in API 1604.