



Gas Pipeline Rights-of-way Management

Summary This standard establishes the requirement for vegetation and structures when managing rights of way (ROW) for Pacific Gas and Electric Company (Company or PG&E) natural gas transmission pipelines and distribution mains including all equipment and physical facilities that transport gas, such as pipe, valves, compressor units, metering stations, regulator stations, delivery stations, and fabricated assemblies.

Target Audience All personnel involved with patrolling, surveying, operations and maintenance (O&M), pipeline engineering and design, land rights management and legal.

Safety NA

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Requirements

1 Goals

- 1.1 The establishment of this gas pipeline ROW management standard extends PG&E's continued commitment to public safety and safe operational practices. This commitment includes the following points:
- Reducing risk to pipeline integrity that can occur from the presence of vegetation and structural intrusions in the ROW.
 - Providing safe access to Company natural gas pipeline facilities to conduct pipeline O&M activities required by regulatory code, which includes the following:
 - Leak surveys.
 - Patrolling.
 - Inspections.
 - Testing.
 - Pipeline repairs and/or replacements.
 - Creating a line-of-sight corridor of the ROW.
 - Emphasizing the marking of the pipeline.
 - Increasing public awareness.
 - Reducing the likelihood of damage to the pipeline from any excavation on/near the pipeline.
 - Enhancing the ability of emergency responders to identify and access the pipeline facilities.
 - Understanding the negative impact of vegetation (e.g., roots) and structures (e.g., buildings and carports) on underground natural gas pipelines, as well as managing safe and reliable pipeline accessibility.
 - Ensuring that all vegetation management operations are done in a safe, effective manner and in conformity with all federal and state laws, regulations and permit conditions, with special attention to addressing any environmental concerns.

2 Vegetation and Structure Control Standards

- 2.1 The vegetation and structure control standards are formulated based on two associated requirements for managing the area on natural gas pipelines. The first requirement defines two specific "zones"—the "Pipe Zone" and the "Border Zone"—defining areas where vegetation is permitted or prohibited within the ROW. The second requirement identifies structure restrictions and introduces the requirement to perform annual maintenance activities on the underground pipeline facilities, while providing unobstructed access to operate and manage Company facilities.



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- 2.2 **Vegetation zone design:** a hard cut is the severe change from one zone to another without a natural transition between the two zones. The vegetation zone design avoids “hard cuts” on ROW that begin from the area over the pipeline (defined as the “pipe zone”), and expands to the outer edges beyond the pipe zone called border zones. The vegetation zone design allows for the landscape to incorporate an environmentally balanced “feather cut” from the pipe zone as it moves outward to the border zone.
- 2.3 **Pipe zone:** a pipe zone must extend from the edge of the pipe to the border zone.
- 2.4 A pipeline may not always be located in the center of the easement. Figure 1, “Illustration of the Pipe Zone and Border Zone” below shows the relationship of the trees and foliage in the pipe zone and border zone, and the manner prescribed to create a “feather cut” to the edge of the ROW.

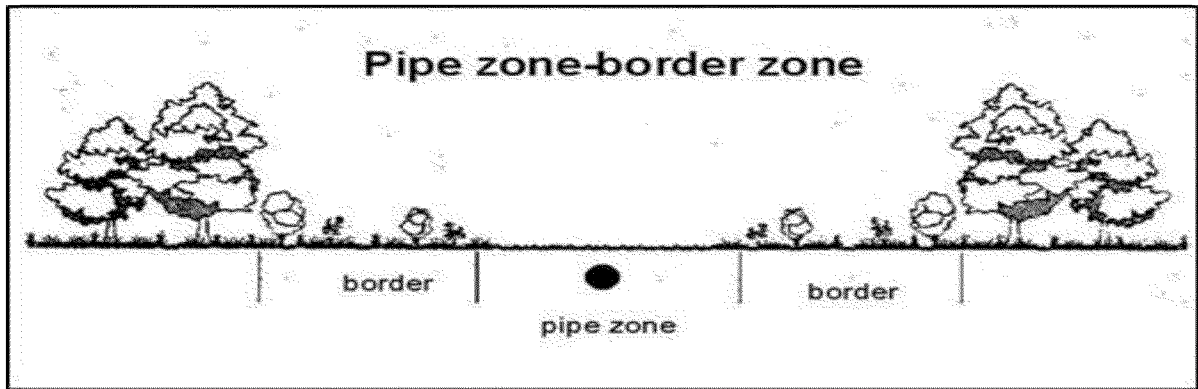


Figure 1. Illustration of the Pipe Zone and Border Zone

1. Subject to the timing criteria described in Section 2.6, trees, woody shrubs, and woody vegetation must be removed and are not permitted to be planted in the pipe zone.
 2. Lawns, flowers, low-profile grasses, and low-growing herbaceous plants are permitted within the pipe zone.
- 2.5 **Border zone:** the border zone must extend from the edge of the pipe zone to the edge of the ROW.
1. Impermissible Vegetation Found in the Border Zone:
 - a. Subject to the timing criteria described in Section 2.6 below, trees, woody shrubs, or woody vegetation exceeding 8 inches, or of a species likely to exceed 8 inches in diameter at 4.5 feet above ground diameter at breast height (DBH) at maturity, and the trunk or main branch is 5- to 10-feet from the outer edge of the pipeline, must be removed and not permitted to be planted in the border zone. See [Figure 2, "Typical DBH Measurement."](#)



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2.5 (continued)

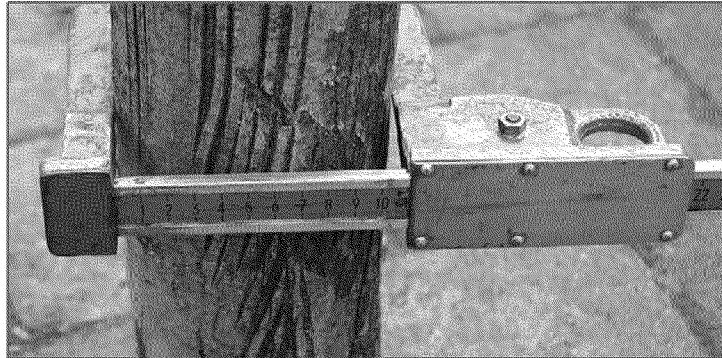


Figure 2. Typical DBH Measurement

- b. Subject to the timing criteria described in Section 2.6 below, trees, woody shrubs or woody vegetation exceeding 36 inches in DBH or is of a species likely to grow to and exceed 36 inches in DBH at maturity, and the trunk or main branch is 10- to 14-feet from the outer edge of the pipeline, must be removed and not permitted to be planted in the border zone.

2.6 Timing Criteria for Clearing Pipe and Border Zones of Unacceptable Vegetation

Decisions on the timing of the removal of any specific tree or woody shrubs currently in the pipe zone, or those greater than 8 inches in DBH at maturity in the border zone, must be made by integrity management personnel using risk-based assessment tools and principles to identify, assess, and mitigate potential risks to the pipeline.

3 Structures

- 3.1 All structures that are placed in the Company's easement are considered an encroachment. If the Company determines that the encroachment does not interfere with O&M, does not endanger the facilities or compromise the safety of the public, the Company may enter into an encroachment agreement with the land owner. The agreement must comply with California Public Utility Code (CPUC), Section 851 and General Order 69-C.

- a. General Order 69-C Summary

CPUC General Order 69-C sets forth the type and nature of real property rights a public utility may convey without further approval of the CPUC. Specifically, it authorizes public utilities to grant easements, licenses, and permits for the use or occupancy of operating property.



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3.2 Permissible Structures Found in the Border Zone

Most easements for gas transmission and distribution (T&D) facilities restrict the construction of buildings and other structures; however, there are times when some types of structures are acceptable. Contact land department personnel for assistance in determining if a structure or other use is acceptable.

4 Generally Permissible Uses of ROW

The following uses are typically permitted within ROW boundaries:

- Some patios or concrete slabs (subject to limits).
- Flower beds, vegetable gardens, lawns, low shrubbery, and certain crops.
- Livestock grazing.
- Some sports and game fields, parks, and golf courses (subject to limits).

5 Prohibited Uses of ROW

To keep pipelines accessible, the following uses are prohibited within the ROW boundaries (list not all-inclusive). See exception process as described in Section 3, "Structures:"

- Buildings, structures or foundations, overhanging roofs and balconies, garden sheds, and signs.
- Wells, swimming pools, or other boreholes.
- Storage of flammable materials, heavy equipment, and bulk goods.
- Burning materials, such as waste, scrap lumber, and slash.
- Pile-driving or blasting.

6 Border Zone Exemptions

- 6.1 Integrity management personnel may elect to exempt specific trees or woody vegetation for removal from the border zone.
- 6.2 Any decision to make an exemption in the border zone must be documented in writing; including the rationale for the exemption and the analysis supporting the decision.
- 6.3 The exception document must be reviewed and signed by the directors of land management and integrity management.



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7 Pipe Zone Exemptions

- 7.1 Exemptions may not be made in the pipe zone unless the directors of land management and integrity management program collectively determine that the remaining trees or woody shrub in the pipe zone meet the following requirements:
1. Present no risk to pipeline integrity as determined by the integrity management evaluation.
 2. Does not unduly interfere with any of the following:
 - Safe accessibility to the pipeline.
 - Creating an obstruction in the line-of-sight corridor.
 - Emergency response.
- 7.2 Any decision to make an exemption in the pipe zone must be documented in writing to include the following:
- Rationale for the exemption.
 - Integrity analysis supporting the decision.
 - Description of how the goals will be met despite the exemption.
 - Signatures from the following:
 - a. Directors of land management.
 - b. Directors of integrity management.

8 Exemptions for Environmentally Sensitive Areas

Exemptions in environmentally sensitive areas, such as an endangered species habitat or an area of historical or cultural significance or other similar designations, must be determined 1) on a case-by-case basis, and 2) the distinct environmental demands of the area while balancing safety and operational requirements.

9 Easement Safety

The Company may elect to remove any tree or vegetation from the easement that is determined to adversely affect pipeline integrity.

10 Outside the ROW

- 10.1 The Company must take appropriate action to identify, assess, and mitigate the potential risks of trees and vegetation located outside the ROW that are capable of producing limbs and roots that may adversely impact the pipeline integrity within the easement.



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10.2 The Company must work with the appropriate property/land owners and occupants to reach a written agreement before the removal or trimming of vegetation, trees, or limbs outside the easement.

END of Requirements

Definitions

Border zone: an area extending from the edge of the pipe zone to the edge of the ROW.

Corridor: a tract of land forming a passageway.

Diameter at breast height (DBH): a standard method of expressing the diameter of the trunk or bole of a standing tree.

Easement: the limited right to make use of property owned by another. Pipeline ROW is documented in a written easement. In this example, the easement may grant the right to install and maintain a pipeline across the other person's property. The rights and restrictions are usually defined in the easement document. The easement is usually recorded to provide notice of the rights and restrictions that apply to the property, even when it transferred or sold.

Encroachment: to advance beyond established or proper limits; make gradual inroads or to trespass upon property, domain, or rights of another, especially gradually or stealthily.

Herbaceous: a plant with leaves and stems that die down at the end of the growing season to the soil level, which has no persistent woody stem above ground.

Pipe zone: an area around the pipeline extending from the edge of the pipe to the border zone. In a ROW with widths equal to or less than 10 feet: the width of the pipe zone must be equal to the width of the ROW. In ROW with widths greater than 10 feet, the width of the pipe zone must be equal to the width in the ROW that is up to 5 feet on either side of the edge of the pipeline. Any area within the ROW that is outside of the pipe zone will be considered "border zone."

Right of way (ROW): the right to cross property to go to and from another parcel. The ROW may be a specific grant of land or an "easement," which is a right to pass across another's land.

Vegetation: all the plant life in a particular region taken as a whole.

Implementation

Document owner must set up a session to tailboard the document to the



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Responsibilities affected integrity management personnel.

Guidance Document Tailboard must be emailed to land management, engineering, O&M, and legal managers.

Governing Document NA

**Compliance Requirement/
Regulatory Commitment**

49 CFR Part 192, Subpart O

CPUC, Section 851

CPUC General Order 69-C, "Easements on Property of Public Utilities Resolution No. L-230"

Reference Documents

Developmental References:

CPUC, Section 851

CPUC General Order 69-C, "Easements on Property of Public Utilities Resolution No. L-230"

Supplemental References:

49 CFR Part 192, Subpart O

49 CFR §192.451

49 CFR §192.613

49 CFR §192.614

49 CFR §192.616

49 CFR §192.705

49 CFR §192.706

49 CFR §192.707

49 CFR §192.933



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Appendices NA

Attachments NA

Document Recision This document supersedes Utility Standard TD-4490S, "Gas Pipeline Rights-of-way Management" Rev: 0 issued 06/2013.

Approved By Chauna Moreland
Director

Document Owner
Engineer

Document Contact Manager

Manager

Revision Notes

Where?	What Changed?
Section 2.5	Clarified language and measurement standards for vegetation removal criteria.
Approver, Document Owner, and Contact	Updated personnel to reflect current organizational structure.