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Pacific Gas and Electric Company

Gas Information Bulletin

Title: CGT Policy on Preventing Mechanical Damage to Gas Transmission Lines

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CGT Policy
Preventing Mechanical Damage to Transmission Lines

This policy is intended to reaffirm and clarify required procedures and practices designed to prevent buried transmission lines from being mechanically damaged by external forces. This policy applies to ***ALL*** buried transmission lines and pipeline facilities owned by CGT, and the requirements apply to ***ALL*** parties involved with mark and locate, excavation, and stand by responsibilities targeted to prevent mechanical damage of buried transmission lines.

This policy provides requirements in addition to existing PG&E standards, and replaces the existing Local Transmission Standby Policy (LTSP – January 2000) and GSM Standby Policy (1997). Existing PG&E standards and guidelines include UO S4412 Protection of Underground Infrastructure, UO G14412 Site Delineation and Mark and Locate Surface Markings, and UO G14413 Procedures for Excavating Pipelines and Services.

This policy was developed by a cross functional team of GSM employees. Past incident report root cause findings, policies, as well as knowledge of actual field practices being employed, were all used in the development of this policy.

LOCATING TRANSMISSION PIPE

Method **All CGT owned transmission lines shall be conductively located using a direct connection.** In the event this is absolutely not possible, due to the lack of available facilities to connect to (e.g., ETSs, valves, regulator sets, etc.), in order to obtain authorization to inductively locate the pipe, the locator **MUST** complete the checklist on the USA tag, documenting that all possible effort to connect to the pipe has been expended. For locating local transmission lines, prior to seeking authorization to inductively locate, a Corrosion Mechanic should be consulted for help with direct contact locating. **If the pipe is inductively located, the locator shall carefully probe and/or hand dig to VERIFY that the transmission line has been properly located.**

Installation of ETS to Allow Conductive Locates In implementing this policy, each district or division crew should proactively identify ETS installations that are required in areas of the system to ensure conductive locates can be performed. These installations should be installed in preparation for future Mark and Locates. If inductive locating is authorized as described above, after the pipe has been exposed by excavation, an ETS shall be installed if at all practical, and a direct connection shall be established to mark and locate the remaining pipe in the USA boundary. If this cannot be accomplished, a Work Request shall be submitted (and the number noted on the USA tag) at the close of the job to ensure an ETS gets installed in a preferred location to facilitate future mark and locates in the area.

Locating Pipeline Offsets or Branches **In the event a pipeline offset (change in pipeline direction) or branch has been marked with any instrument, conductively or inductively, the location of the marked pipeline offset or branch SHALL be verified using probing and/or hand digging, PRIOR to allowing any power operated excavation in the USA boundary.**

Multiple PG&E Facility Locates In the event two different PG&E pipelines (transmission and distribution) are present within the USA boundary, district and/or division personnel shall make extra effort to communicate with the excavator that two PG&E pipelines are identified on the USA ticket, and that both must be properly marked and located PRIOR to any excavation within the USA boundary.

Discovery of Inaccurate Mark and Locates In the event it is determined during excavation that a buried pipeline has been mis-marked, the responsible engineer should be immediately contacted and the incident investigated to determine root cause.

All other requirements in PG&E Standard S4412 and Guideline G14412 also apply to M&L activities.

EXCAVATION PROCEDURES

The following procedures provide additional clarity on required practices when excavating in the vicinity of transmission lines. All other provisions detailed in Guideline G14413 also apply.

General Requirements

- Excavation procedures described herein, and described in Guideline G14414, apply to ANY excavator, including PG&E or Third Parties.
- At no time is power-operated equipment to be used within 12 inches from the outside wall of the pipeline. Hand digging is required within 12 inches from the pipe.
- If excavation activities are going to occur within 2 foot of the nearest side of the transmission line, the nearest side of the transmission line must be unearthed to ensure the transmission line is not hit by the excavator. If construction involving the installation of above ground structures is planned to occur inside the pipeline right of way, confirmation of the pipeline location shall be confirmed by either probing or day lighting the pipeline.

Initial Excavation

- Prior to using any power operated equipment, probing to a depth of 24 inches, at 5 inch spacing, at a right angle to the pipeline is required. Hand digging may be substituted for probing. If the pipe is determined to be deeper than 24 inches, power operated equipment may then be used to remove 12 inches of cover.
- If the initial excavation determines the pipe is deeper, a trench 18 inches deep must then be dug at the base of the excavated area, in an effort to daylight the pipe. If it is found the pipe is still deeper than this depth, another 6 inches of earth may be removed using power-operated equipment. The use of probing may be substituted for the hand digging, however it must be ensured that at no time is the power-operated equipment within 12 inches from the pipe wall. These procedures are to be followed until the pipe is located and exposed.
- Once the pipe is exposed, all sides of the pipe are to be located and exposed. Once the sides are exposed by hand, excavation with power-operated equipment is allowed, taking care to

maintain approximately 12 inches between the power operated equipment and the pipe. These procedures are to be followed until the pipe is fully located and exposed.

STANDBY REQUIREMENTS

The following describes the stand by requirements when excavations around a transmission pipeline occur.

When Required

Excavation Activities - A Stand By person is required to be on site whenever excavation (digging, trenching, etc.) is within 5 foot from the edge of the pipe. Field visits during excavations that are not planned to be within 5 feet of the edge of the pipe are encouraged, especially during multiple day jobs.

Agricultural Activities - During normal agricultural operations (such as tilling, discing, or ripping), it is strongly encouraged to have a Stand By person on site during the first day of the operations to ensure the agricultural operator is following safe practices. **A Stand By person IS required to be on site if ANY of the following conditions exist.**

- The pipe is confirmed to be shallow enough to possibly be hit by the type of agricultural operation being performed.
- The agricultural operator is known to not understand or comply with safe USA and agricultural practices.
- Positive contact (by either face or phone) has Not been achieved for this specific USA tag.

Stand By activities for agricultural operations exceeding 1 day are not required, unless any one of the above described conditions are present. When agricultural operations are planned to occur over many days, it is encouraged to conduct field visits to ensure that the operator is still complying with all required safety practices.

Boring Activities - A Stand By person IS required when any kind of boring activity is crossing perpendicular to the pipe. A Stand By person IS ALSO required for any boring activity parallel to the pipeline that will come within 10 feet to the nearest side of the pipe. Please consult the appropriate Pipeline Engineer for any further clarification on this policy.

When PG&E is the Excavator - A designated Stand By person is also required, as described above, whenever PG&E is the excavator (including GC operations).

Responsibilities of a Stand By Person

Prior to reporting on site for Stand By duties, the following shall be accomplished:

- Obtain the current USA Tag. (confirm active)
- Review all appropriate drawings (plat sheets, GIS maps, etc.)
- Ensure that you have an operating radio or cell phone.
- Obtain locating equipment.

On Site responsibilities include the following:

- Confirm the existing Surface Marks within the USA boundary by relocating the line.
- Conduct a tailboard with the Excavator and the excavation crew. Review the location of the line, potential safety hazards, and required safe excavation procedures, as required in this clarification and in our standards.
- Inspect the work in progress, and **STOP the work anytime the excavator does not follow the excavation rules discussed with him.** If the excavator continues to break the rules, the job shall be shut down and the appropriate supervisor shall be immediately notified.

The above duties are to be carried out each day the Stand By person is assigned to an excavation site.

INCIDENT INVESTIGATION

In the event a buried Transmission pipeline is hit, and the pipe had been USA'd and Mark and Located by PG&E personnel, and the incident could possibly be contributed to the line being mis-marked, within 3 days of the incident the original Mark and Locate activity must be recreated as part of the root cause analysis.

Approved by:

(original signed by)

[redacted]

Date: 03/26/02

Author: [redacted]

If you have any questions about this bulletin, please call the employee(s) listed below:

Contact(s): [redacted]
LAN ID(s): [redacted]
Phone(s): [redacted]