TITLE: Cathodic Protection Area Assessment/Resurvey Procedures for Gas Distribution

Purpose

This standard describes the steps that must be taken to review the adequacy of cathodic protection systems, as required by Pacific Gas and Electric Company (Company) Gas Standard O-16, "Corrosion Control of Gas Facilities."

Recision

This standard supersedes UO Standard D-S0467, "CPA Assessment/Resurvey Procedures," effective 2-00.

Safety

Failure to perform the required inspections could pose a risk to employee and public safety.

Implementation Responsibilities

The senior director of Engineering and Planning (E&P) is responsible for authorizing, approving, revising, and distributing this standard.

This standard will be included as part of the *Gas Distribution Maintenance Manual* and will be distributed to all directors with responsibilities for gas distribution system cathodic protection systems (i.e., area OM&C directors). This standard will also be published on the Company Intranet.

OM&C directors are responsible for implementing the procedures detailed in this standard.

Cathodic protection area (CPA) resurveys are required to be completed at least once every 6 nominal years, not to exceed 6 nominal years. The supervisor of the corrosion mechanics is responsible to implement the procedures contained in this standard. The division shall resurvey a minimum of 12% of the total subject CPAs each year, with a goal of 17% per year.

Compliance

Implementation and effectiveness are measured by the responsible directors/superintendents. In addition, periodic audits can be conducted by internal Company departments. The California Public Utilities Commission (CPUC) also conducts compliance reviews on the requirements in this standard. Cathodic protection resurveys revealing the need for corrective actions will be reviewed and acted upon by the responsible supervisors. The divisions will have until December 31, 2011, to complete the resurveys for the additional distribution CPAs containing transmission facilities that were added to the scope of this standard in 2005.

Contacts

Gas Distribution and Technical Services – Senior Gas Engineer (223-8180)

Policy

Each subject gas distribution CPA is resurveyed at least once every 6 nominal years, not to exceed 6 nominal years, using the procedures described in this standard.

Procedure

The details of the CPA assessment/resurvey procedures are listed in Attachment 1. Attachments 2, 3, 4, 5, and 6 contain worksheets, forms, and checklists to be used in completing the reviews and resurveys. Documentation requirements are also contained herein.

The director of Gas Distribution and Technical Services is authorized to modify these detailed procedures, forms, or instructions as needed, or to approve variances from this procedure on an exception basis.

Definition of Terms

CPA: A cathodic protection area that consists of:

- Segments of steel pipe that are electrically bonded and protected by the use of impressed current, or
- More than eight blocks of steel pipe or 1 mile of steel pipe that are electrically bonded and protected by the use of galvanic anodes.

Gas Distribution CPA: For the purpose of this standard, a CPA that is either an impressed current CPA with a rectifier directly tied to the gas distribution facilities or a CPA where 25% or more of the lineal footage of the main facilities in the CPA are distribution facilities.

Long Resurvey: A complete resurvey, where new maps, pipe-to-soil profiles, boundary validation, and other field data is required.

Modified Short Resurvey: A resurvey where more than 2 hours and less than or equal to 6 hours (see table below) of field work is required to bring the file to standard.

Table 1 - Typical Hour Allocations for Specified Work

Record File Review	½ hour
Obtain Leak Records and Review Leak Records	½ hour
1 Interference Test	1 hour
Update the Current Calculation Sheet	2 hours
Update New Maps	1 hour
Validate Pipeline Current Map Spans	1 hour
Validate Pipe-to-Soil Readings (2-4)	1 hour
Pipe-to-Soil Saturation	3 hours
Hardwire the CPA	Typically 12 hours (will vary)
Pipeline Current Map the CPA	Typically 8 hours (will vary)

Nominal Year: Any day within the respective calendar year.

Short Resurvey: A resurvey where data and records are critically reviewed and it is determined that no more than 2 hours (see table above) of work is required to bring the file to standard.

Date Issued/Updated

Effective: February 2006

Review Date: February 2011

Signed,

Kevin J. Dasso
Senior Director
Engineering and Planning

Reference Documents

49 CFR 192.465, "External Corrosion Control: Monitoring"

Code of Safe Practices, Basic Safety Requirements, Sections 1, 2, 3, 13, and 15

Gas Standard O-16, "Corrosion Control of Gas Facilities"

Utility Standard Practice (USP) 22, "Safety and Health Program"

UO Policy 3-7, "Gas and Electric Operation, Maintenance, and Construction:

Attachments

Attachment 1, "Procedures"

Attachment 2, "Initial CPA Assessment Worksheet (2005)"

Attachment 3, "Initial CPA Assessment Worksheet"

Attachment 4, "CPA Field Resurvey Checklist"

Attachment 5, "CPA Resurvey File Review"

Attachment 6, "CPA Resurvey File Review Form"