

Attachment 1 – Procedures

1. General

Distribution cathodic protection areas (CPAs), as defined in this standard, shall be reviewed at least once every 6 nominal years using the procedures as described in this standard. The procedures are described in the following attachments to this standard.

Attachment	Title	Description
<u>2</u>	Initial CPA Assessment Worksheet (only to be used through 2005)	Checklist used to conduct a CPA review. It describes how to review a CPA to determine if further field work is required (a CPA resurvey).
<u>3</u>	Initial CPA Assessment Worksheet (to be used from 2006 on)	Checklist used to conduct a CPA review. It describes how to review a CPA to determine if further field work is required (a CPA long, modified short, or short resurvey).
<u>4</u>	CPA Field Resurvey Checklist (only required when a complete survey, a long resurvey, is performed)	A checklist to assist corrosion mechanics conducting a detailed field resurvey of the CPA to ensure proper cathodic protection. To be done only if a CPA assessment worksheet indicates the need for a long resurvey.
<u>5</u>	CPA Resurvey File Review (only to be used through 2005)	A checklist to ensure that each CPA file has proper documentation.
<u>6</u>	CPA Resurvey File Review Form (to be used from 2006 on)	A form to document the file review of a CPA file for a CPA resurvey.

2. CPA Assessments for 2005 and Prior ([Attachment 2](#))

For 2005 and prior, the initial CPA review must be conducted using the [“Initial CPA Assessment Worksheet \(2005\)”](#) ([Attachment 2](#)). To complete this worksheet, this initial information must be obtained:

- A. External corrosion leakage repairs on protected facilities for the past 12 years by CPA.
- B. CPA maintenance record.
- C. CPA pipe-to-soil sheet.
- D. Total present electrical current requirements for the CPA (in amperes).
- E. Total lineal footage of steel main by size tied to the CPA, and the number of copper services and steel services tied to the CPA. (The footage of services can be determined by applying a division average service length factor to the number of services. Services shall be inventoried by material.) Current requirement sheets shall be completed for each CPA.

This information can be used to evaluate respectively the four initial criteria in the [“Initial CPA Assessment Worksheet.”](#) If the CPA does not meet any one of the four criteria, some field work will need to be conducted to clarify the situation before continuing with the assessment, or a full resurvey will be required.

If the CPA meets the first four criteria, then the following gas documents shall be reviewed to determine if there is any need to conduct field investigations within the CPA:

- Job orders with significant steel main installations, steel main replacements with plastic or with steel with significantly different and impactful current requirements, significant tied service replacements, deactivations, or abandonments in the CPA.

Plastic main installations that could potentially isolate a section of steel main or steel services from the CPA rectifier should be particularly scrutinized. Those local areas within the CPA shall be interrupted to ensure that isolations did not occur.

If the review process shows the CPA either cannot meet any one of the first four criteria or has experienced significant main installations, replacements, deactivations, or abandonments that will likely significantly affect the cathodic protection in the CPA, then a long resurvey shall be conducted as detailed in the [“CPA Field Resurvey Checklist” \(Attachment 4\)](#).

If the review process shows that the CPA meets **all** the criteria questions and has **not** had any significant facility changes in the CPA, then significant field resurvey work is not required and [Attachment 5](#) or [6](#) shall be used. The next step should be to ensure that the CPA files are complete by filling out the [“CPA Resurvey File Review” \(Attachment 5\)](#), as described in Paragraph E below or the [“CPA Resurvey File Review Form” \(Attachment 6\)](#), as described in Paragraph F below.

3. CPA Assessment After 2005 ([Attachment 3](#))

For post-2005 assessments, the initial CPA assessment and subsequent assessments must be conducted using the [“Initial CPA Assessment Worksheet” \(Attachment 3\)](#). To complete this worksheet, this initial information must be obtained:

- A. External corrosion leakage repairs on protected facilities for the past 5 years by CPA.
- B. CPA maintenance record.
- C. CPA pipe-to-soil sheets.
- D. Total present electrical current requirements for the CPA (in amperes).
- E. Total lineal footage of steel main by size tied to the CPA, and the number of copper services and steel services tied to the CPA. (The footage of services can be determined by applying a division average service length factor to the number of services.
Services shall be inventoried by material. Current requirement sheets shall be completed for each CPA.

This information can be used to respectfully evaluate the four initial criteria in the [“Initial CPA Assessment Worksheet.”](#) If the CPA does not meet any one of the four criteria, some field work will need to be conducted to clarify the situation before continuing with the assessment, or a long resurvey will be required.

If the CPA meets the first four criteria of [Attachment 3](#), then the following gas documents shall be reviewed to determine if there is any need to conduct field investigations within the CPA:

- Job orders with significant steel main installations, steel main replacements with plastic or with steel with significantly different and impactful current requirements, significant service replacements, deactivations, or abandonments in the CPA

Plastic main installations that could potentially isolate a section of steel main or steel services from the CPA rectifier should be particularly scrutinized. Those local areas within the CPA shall be interrupted to ensure that isolations did not occur.

If the review process shows the CPA either cannot meet any one of the first four criteria or has experienced significant main installations, replacements, deactivations, or abandonments that will likely significantly affect the cathodic protection in the CPA, then a long resurvey shall be conducted as detailed in the [“CPA Field Resurvey Checklist” \(Attachment 4\)](#).

If the review process shows that the CPA meets **all** the criteria questions and has not had any significant facility changes in the CPA, then significant field resurvey work is not required and [Attachment 6](#) shall be used. The next step should be to ensure that the CPA files are complete by filling out the [“CPA Resurvey File Review Form” \(Attachment 6\)](#), as described in Paragraph 6 below.

4. CPA Field Resurvey Checklist ([Attachment 4](#))

If the [“Initial CPA Assessment Worksheet \(2005\)”](#) or the [“CPA Assessment Worksheet”](#) shows the need to conduct a long resurvey of a CPA, such a resurvey shall be conducted using the [“CPA Field Resurvey Checklist” \(Attachment 4\)](#).

Each step completed on the [“CPA Field Resurvey Checklist”](#) shall be filled out completely with the initials of the person completing the step, and the date the step was completed.

5. CPA File Reviews Conducted in 2005 or Prior ([Attachment 5](#))

After completing the [“Initial CPA Assessment Worksheet”](#) and/or the [“CPA Field Resurvey Checklist,”](#) as needed, the [“CPA Field Review Checklist” \(Attachment 4\)](#) shall be completed to ensure that the CPA file has all of the required information in the folder.

Each step completed on the [“CPA Field Review Checklist”](#) should be filled out completely with the observed or documented result, the source of information, any conclusion, the initials of the person completing the step, and the date the step was completed. The PG&E gas supervisor should indicate his/her approval of the review.

6. CPA File Reviews Conducted After 2005 ([Attachment 6](#))

After the initial resurvey, the [“CPA Resurvey File Review Form” \(Attachment 6\)](#) can be used for subsequent resurveys. If previously completed Attachments [1](#), [2](#), [3](#), [4](#), and [5](#) are complete and the CPA records are current and indicate that no significant changes have taken place in the CPA since the previous resurvey, then only [Attachment 6](#) is required for subsequent resurvey documentation. For resurveys conducted in 2005 or prior, either the [“CPA Field Resurvey Checklist”](#) or the [“CPA](#)

[Resurvey File Review](#)” shall be used. This form ensures that the CPA file folder contains all of the required resurvey information.

7. Recordkeeping

All checklists/worksheets completed as part of this standard shall be filed within the appropriate CPA file folder and kept until two subsequent reviews have been completed. In all cases, the worksheets associated with the latest “File Review” shall be retained in the file.

Note: If [Attachment 5](#) or [6](#) is completed and reviewed, no additional documented reviewed by/initials and dates are required on other file documents.