Pacific Gas and Electric Company
California Gas Transmission

Recommended Practice

Number: RP 4461.1
Revision: 1

Issuing Department: GAS SYSTEM TECHNICAL SUPPORT
Manager: D.W.Anderson

Effective Date: 1 May 1998
Review Date: 1 May 2000

SUBJECT: Engineering Drawing Signature Requirements

Objective

The purpose of this Recommended Practice is to clearly define what signatures should be on a drawing, what the implications of those signatures are, and when CAD generated initials are appropriate on drawings. This policy is based on GSM's manual system for issuing drawings. When an electronic system with electronic controls becomes available, this policy should be revisited.

Scope

This Recommended Practice applies to all engineering drawings issued for design, construction or maintenance support of California Gas Transmission (CGT) facilities. It does not apply to operating diagrams, maps, or other documents which are not used to record the engineering requirements for CGT facilities.

Rescission

All previous instructions, oral or written, that may be contrary to this Recommended Practice.

Related Policy

None

Originator

Gas System Maintenance Department, Pipeline Engineering and Station Engineering Sections

Business Risk

There are specific regulatory and safety requirements to be met in the approval of the design of a gas facility. Failure to comply with those requirements, or to adequately demonstrate compliance, may result in unsafe situations or regulatory sanctions.

Responsibility for Implementation

Manager, Gas System Maintenance
Manager, Gas System Technical Support

Contact for Further Information

[redacted] Engineering Supervisor
Pipeline Engineering, Gas System Maintenance
[redacted]

Approvals and Authorizations

Don Anderson, Manager, Gas System Technical Support — Date

[redacted] Manager, Gas System Maintenance — Date

Signature Format Requirements

1. A set of initials in a signature block implies that the block has been signed by the person whose initials appear there. Therefore, no initials, signatures, or dates will be placed in any signature block of any drawing using CAD, except as noted in paragraph 5 below.

2. All signatures, initials included, including the drafter's, shall be "wet" (i.e., the signature or initials are placed on the drawing by the signer with a pen or pencil).

3. For the first issue of a drawing, the approvers shall sign in the main title block in sequence, with the first signer on the top line, and the person holding ultimate responsibility for the drawing on the bottom line. The final approver shall fill in the approval date in the drawing's DATE block.

4. For each revision to a drawing, including the initial revision, the signers shall initial the appropriate block. The final approver shall fill in the approval date in the revision block's DATE block.

   Revisions shall go from bottom to top. If there are more revisions than can be accommodated in the revision blocks, subsequent revisions shall start at the bottom again so that the most recent revisions are all shown in sequence, bottom to top.

5. For subsequent revisions, when the drawing is modified in CAD, the initials (or names to be consistent with original signatures) and dates from previous revisions should be typed into the CAD file, to document who signed the previous revisions. File copies of previous revisions will be retained to verify that those revisions had wet signatures. This is the only occasion where CAD-generated names or initials are acceptable in signature blocks.

6. The Professional Engineers stamp, when required, may be affixed either by CAD or by actual stamping by the Professional Engineer. In either case, the stamp is not valid unless signed through by the Professional Engineer. This applies to the initial issue and subsequent revisions. The revision number to which the stamp applies shall be clearly noted underneath the stamp; e.g., "For Revision ___ Only." If a drawing was originally stamped and signed by the Professional Engineer and subsequent revisions do not require stamping (e.g. as-builts), a note should be added indicating which revision was stamped.

Who Should Sign And What The Signature Implies

There must be a purpose or value added for each signature on the drawing. A signature should not be put on the drawing simply because there is a place for it. The value added by each signature is defined as follows:

Who Should Sign And What The Signature Implies (cont.)

1. The person taking responsibility for the design or making as-built drawing revisions (the Design Engineer or Estimator for designs, and the Design Drafter for as-builts) shall sign the DWN block.

2. The person taking responsibility for checking the design to ensure that there are no design or drawing errors (the ADE, SDE, SDD or assigned checker) shall sign the CHKD block.

3. There are two cases when the Engineering Supervisor shall sign the SUPV block. In either case, the signature indicates acceptance of the quality of the drawing, and does not imply acceptance of the design's compliance with design criteria.

   Case 1:

   When the Supervisor is verifying that the people doing the design and checking work are indeed qualified to do the work, he/she will sign the drawing to indicate that they are qualified.

   If the people are qualified by definition of the Union Contract, (e.g. Estimator doing the design and ADE checking the design) there is no need for the Supervisor to sign the drawing, and the SUPV block will be left blank. An example of when the Supervisor will sign the drawings is in the case of as-built drawings where the work was done and checked by Design Drafters or Senior Design Drafters. In this case, the Supervisor's signature on the drawing indicates that the checker was qualified to check the changes.

   Case 2:

   When the Supervisor is doing quality reviews, or is personally verifying the adequacy of work or checking changes, the Supervisor's signature indicates that he/she has reviewed the drawings.

4. The person taking responsibility for approving the design and accepting that it is in compliance with all applicable PG&E requirements (i.e., the Engineering Contractor or PG&E employee who is acting as the Responsible Engineer) shall sign the drawing in the APVD block. Signing the APVD block does not constitute a Professional Engineering approval of the drawing. That is determined by the signature through the PE stamp.

5. A second APVD block is provided for the initials or signature indicating that a technical peer review has been performed.

6. Engineering work that is regulated by the State of California under the Professional Engineers Act shall be signed and stamped by a PE. If an engineering contractor is acting as the person in "responsible charge" then the engineering contractor is expected to sign and stamp the drawings. The engineer who stamps the drawing does so to certify that the work product meets accepted professional engineering practice,

including compliance with applicable codes, PG&E standards and CGT standards.

Other Issues

1. A PG&E employee whose sole purpose on a project is to be the Project Manager shall not sign drawings to accept them into the PG&E document system. The Project Manager shall ensure that the drawings have all the proper signatures and then shall forward the drawings to the Records section in Gas System Technical Support with a transmittal letter stating that the drawings are ready for issue. The transmittal letter will constitute the Project Manager's acceptance of the drawings.

2. The Records section will review the drawings to ensure that they are physically acceptable (layout and electronic format). If the drawings are found to be acceptable, the Records section will accept them into the document system. Acceptability shall be indicated by a small stamp placed outside the border of the drawing. If the drawings are not acceptable, they will be returned to the Project Manager for correction.