R1-85-95-PGE

PACIFIC GAS AND ELECTRIC COMPANY

PG&E 245 MARKET STREET • SAN FRANCISCO, CALIFORNIA 94106 • (415) 781-4211 • TWX 910-372-6587

August 6, 1985

Local Union No. 1245
International Brotherhood of
Electrical Workers, AFL-CIO
P. O. Box 4790
Walnut Creek, California 94596

Attention: Mr. Jack McNally, Business Manager

Gentlemen:

This letter cancels and supersedes all previous correspondence on this issue.

To comply with the decision rendered in Arbitration Case No. 123, Company will use existing classifications to perform the work identified by the arbitrator as appropriate to those classifications. Work will be distributed as follows:

For those conditions in either overhead or underground construction work where the contracted work requires more "on-site" coordination and/or inspection by the Construction Supervisor than is required for Company crews, this will be performed by the "field representatives" in classifications listed below.

1) Underground Construction - by journeyman Fitter (0560), Inspector (0990) or above.

2) Overhead Construction - Inspector (0990) or above.

"Field representative" duties are described in detail in Company's attached Contract Compliance Manual as revised August 5, 1985.

Such duties, falling within the classifications outlined, shall be assigned by the supervisors in charge in accordance with the Labor Agreement. Supervision will continue to coordinate the activities of the bargaining-unit classifications involved in the contracting activities, as well as pre- and post-check jobs, negotiate with contractors and the associated Contract administration work.

If you are in accord with the foregoing and agree thereto, please so indicate in the space provided below and return one executed copy of this letter to Company

Yours very truly,

PACIFIC GAS AND ELECTRIC COMPANY

By _____
Manager of Industrial Relations

The Union is in accord with the foregoing and it agrees thereto as of the date hereof.

LOCAL UNION NO. 1245, INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS, AFL-CIO

Aug 7, 1985

By _____
Business Manager

CONTRACT COMPLIANCE MANUAL

ISSUED DECEMBER, 1983

REVISED 8/5/85

CONTRACT COMPLIANCE MANUAL

1. Management

1.1 General

This manual has been developed to aid the Company's field representative and construction supervisor in implementing the Construction Contracts for installation of gas and electric distribution facilities. These procedures are not substitutes for the requirements detailed in Contract Documents and in case of conflict the Contract Documents will prevail.

1.2 Contracts

1.2.1 Contractor Delegation

A Contractor may delegate all or a portion of the work to a PGandE approved subcontractor upon written approval of PGandE. The field representative should direct all communication to the Contractor and not the subcontractor, unless written instructions from the Contractor dictate that communications are to be given to Subcontractors, in which case communications are to be given to both Contractor and Subcontractor. In all cases the Contractor is ultimately and legally responsible for compliance with the provisions governing the work.

1.2.2 The Contractor is an independent entity from PGandE and must be able to conduct scheduling and work in an independent manner without interference by PGandE. The Field Representative should only be concerned with the concept that the end result of the work will conform with the provisions governing the work. The field representative should not become directly involved with work planning, methodology, sequence, efficiency, etc. Any comments to the contractor must be advisory in nature and the Contractor is free to accept or reject advice without prejudice. The exceptions are when the actions of the Contractor are in violation of the law (including safety infractions), not in accordance with PGandE Standards or Specifications or Contractor's work unnecessarily interferes with PGandE's operation.

1.2.3 The field representative has the authority to provide interpretation of the technical provisions governing the work to the Contractor. Such interpretations must, at least, meet all the following three (3) criteria:

1.2.3.1 The interpretation must not conflict with the contract provisions governing the work.

1.2.3.2 The interpretation must be reasonable and represent common construction practices.

1.2.3.3 The interpretation must not conflict with PGandE Standard Practices applicable to the work.

1.3 PGandE Rights

1.3.1 The field representative's primary function is to approve work performed by others that meets or exceeds the criteria established in the technical provisions governing the work.

1.3.2 The construction supervisor may stop the work but only in accordance with the provisions of Article 12, "Delays and Suspension of Work," of the Medium Form Construction General Conditions and Goal One General Conditions, or Article 19, "Delays and Suspension of Work," of the Long Form Construction General Conditions and only as the last resort if the Contractor refuses to abide with provisions governing the work. It is recommended that the written notification to the Contractor regarding their failure to comply with Contract be provided by the construction supervisor or general foreman.

1.3.3 The field representative may utilize any number of techniques to determine whether or not the material or the work complies with governing provisions. The field representative has the right to reasonably free access to any material or to any part of the work and may insist that certain portions of the work be removed so that an inspection can be performed on work that was hidden or backfilled without prior authorization by the field representative.

1.3.4 The field representative should refuse to inspect those portions of the work when the act of inspection would expose the field representative to hazardous conditions. Hazardous conditions are construed to mean conditions resulting from work procedures and/or techniques that are in violation of Standards established by the terms of the contract or that otherwise pose a danger. When the field representative makes a determination not to inspect a portion of the work, the Contractor shall be provided with written confirmation of this determination and the specific actions required so that an inspection can be made. Copies of the written confirmation shall also be sent to the construction supervisor or appropriate Company supervisor.

1.3.5 PGandE will <u>not</u> accept or authorize payment for any facility where the field representative does not have an opportunity to inspect the entire job either by reasons of concealment or exposure of the field representative to unwarranted hazards.

1.4 Safety and Environmental Requirements

1.4.1 Safety

1.4.1.1 It is anticipated that the Contractor will conduct his operation so as to conform within the applicable

rules and regulations regarding work practices. The field representative is not under the obligation to act as an agent of the State or local agency nor to report violations to the respective enforcement bureaus. The field representative must, however, inform the Contractor in writing when labor and work practices are in violation of the safety rules established by the terms of the contract. The field representative must log the fact such a notification was made in the Daily Inspection Report and forward a copy of the notice to the Contractor and the construction supervisor.

1.4.1.2 If the violation or other hazard poses an imminent danger to the field representative, other PGandE employees, and/or facilities or third parties, the field representative shall immediately inform the Contractor to stop work in the area of violation. The field representative shall request the construction supervisor or general foreman to come to the work site for further resolution of the violation.

1.4.1.3 The field representative should never expose himself/herself to situations which present a hazardous situation.

1.4.1.4 Should an enforcement or inspection officer of the Agency responsible for work safety (e.g., Cal OSHA) desire to make an inspection of the work site, the field representative should immediately so inform the Contractor and have the Contractor's representative assume all responsibility for conducting the inspection tours and aiding the officers as they see fit. The field representative shall log any pertinent information in the Daily Report Log. Insofar as inspection of a Contractor's work is concerned, neither PGandE nor the field representative should assume any responsibility. Unless the Contractor expressly requests that the field representative accompany the inspection tour, the field representative should return to normal inspection duties.

1.4.1.5 If the officer desires to review any work in progress by PGandE crews, the field representative should direct the officer to the construction supervisor and return to normal inspection duties.

1.4.1.6 The field representative shall conduct himself/herself as a representative of PGandE and as such abide by the PGandE Accident Prevention Rules and appropriate Standard Practices dealing with safety.

1.4.2 Environmental

The Contractor assumes all responsibility to abide by all permit restriction and compliance with appropriate rules and regulations dealing with environmental concerns. The field representative should inform the Contractor should a violation occur or is about to occur and so note in the Daily Report Log.

1.5 Contract Changes

1.5.1 Contract changes must be in accordance with the Construction General Conditions of the Contract; and should be agreed to in writing, to include the amount of compensation, prior to the work being undertaken by the Contractor.

1.5.2 Changes can either change the scope of work or change the provision governing the work. The construction supervisor shall authorize changes within delegated authority. Changes to the contract will be identified by sequential numbers starting with one (1). The construction supervisor and field representative shall receive a copy of all authorized change orders.

1.5.3 Increases in job scope can result in increased compensation based on term and material changes, unit price additions or lump sum additions. Decreases in job scope can result in decreased compensation based on unit prices or lump sum reductions. Changes to the contract must be documented on PGandE's Contract Change Order (Form 62-4675). It is recommended that an attempt be made to negotiate any changes in scope on a unit price or lump sum basis. Time and material changes require substantial documentation for both the Contractor and field representative to verify that the correct charges are accounted for. Careful attention is required by the field representative to assure that submitted time sheets for extra work actually reflect the effort expended to accomplish the extra work and not work originally contracted.

1.5.4 Intangible Costs Due to Changes in Scope: If the change in scope was at the request of PGandE, PGandE must pay justified intangible costs for delays, out of sequence work, incremental inefficiency, incremental over crewing, unplanned move-ons, move-offs, etc. The subject of intangible costs should be initiated by the Contractor. They should be thoroughly documented and based on factual information and historical records. Some Contractors may attempt to utilize claims for intangible costs to correct for their own inefficiencies in performing the primary work. If the field representative or construction supervisor suspects that claims for intangible costs will be overstated the field representative shall maintain extremely accurate and detailed job records recording the Contractor's progress and problems and keep contract administrator informed. PGandE's position is to fairly

compensate the Contractor's for their actual extra costs associated with extra work that was initiated at the request of PGandE. For contracts with cost reimbursable provisions that are expected to amount to $100,000 and over, the contract will include detailed accounting and auditing provisions which should be utilized by PGandE pursuant to Standard Practice 220-1, Appendix C.

1.5.5 Intangible Costs for Other Changes: No intangible costs will be allowed for (1) extra work associated with changes in scope for the convenience of the Contractor or (2) changes in the Articles governing the Work.

1.5.6 If compensation for additional or intangible work is required and has not been agreed upon in advance by the construction supervisor and the Contractor, the negotiations should be handled by the Contract Negotiator.

1.6 Contract Administration

1.6.1 Company Representation

The field representative is PGandE's field representative for the performance of work and shall keep the Construction Supervisor informed of the job progress and any activity that may require the construction supervisor's attention. The construction supervisor shall keep other functional departments informed of the job status.

The construction supervisor must also be familiar with the provisions of PGandE Standard Practice 220-4 Contract Administration insofar as they apply to field administration of contracts.

The construction supervisor should initiate the preparation of all change orders to assure his awareness of the contract provisions. Informational copies of all documentation, letters, communication, etc., with the Contractor should be sent to the field representative.

1.6.2 Approval of Invoices

The construction supervisor and all individuals involved with the processing and approval of invoices are to be familiar with the payment conditions of the contract. Invoices should be processed in as timely a manner as possible. If invoices are submitted which are incorrect or incomplete, the Contractor's representative should be immediately notified and the method of correction agreed upon between the construction supervisor and the Contractor's representative.

1.6.2.1 The Contractor must send all invoices to the designated address shown on the contract. Invoices are to include the Contract Number, work location,

and description of the work completed for which the invoice is submitted. Invoices should not be submitted for work on contracts that cover different geographical areas (i.e., different PGandE Districts).

1.6.2.2 Invoices should normally be sent to the construction supervisor responsible for the contract administration. The construction supervisor is to review the invoice to ensure the work described has been satisfactorily completed and accepted by PGandE, and that the amount invoiced is correct for the work performed. The construction supervisor is to maintain a running log for contract being administered. The log is to include the Contractor's invoice number, date of invoice, invoice amount (for particular contract), amount billed to date, and the date the invoice was forwarded for approval and payment. The construction supervisor is to complete the Accounting Data Sheet and forward this with the invoice to the individual designated as the invoice "Approver."

1.6.2.3 The invoice "Approver" is to ensure that the invoice is complete and accurate and that all necessary information is provided. The invoice should be approved and forwarded to the Accounts Payable Section in General Office. A copy of the approved invoices is to be retained by the construction supervisor in the job file.

1.7 Documentation

1.7.1 Job Records

The field representative shall prepare a Daily Inspection Report detailing the daily progress of the work, the results of the inspections and any significant problems, conversations, events, etc., that may have occurred in the course of the work. It is, however, not necessary to detail the exact quantity of conforming work. Any special inspection reports shall be attached to the Daily Report Log (DRL).

A copy of the DRL (together with all attachments) are to be turned in to the construction supervisor each day. He/she will review each report for adequacy and accuracy of inspection and identify potential problem areas. Following review, the DRL will be logged, indexed, and filed in the job files. The original copy of the DRL will be retained by the field representative for reference. Upon completion of the contract, the original copy of the DRL must be filed in the permanent job file.

Attachments to the DRL will consist of special inspection reports and other reports. Special inspection reports are preprinted inspection forms for a specific activity. The following inspection activities will require the use of these special reports:

1.7.1.1 Verification of welder's/plastic fuser's qualifications.

1.7.1.2 Welding/fusing inspections.

1.7.1.3 Concrete test results.

1.7.1.4 Compaction test results.

The DRL is to be completed as follows:

1.7.1.5 Date: Date of visit.

1.7.1.6 Field representative: Name of field representative completing the report.

1.7.1.7 Location: Region, district, contract number, project name and location, and PGandE authorization number.

1.7.1.8 Remarks: Description of the work accomplished and accepted. Instructions for the completion of the remarks section are contained in each procedure.

In addition to the above, the field representative must also note:

1.7.1.9 Any instructions given to the Contractor.

1.7.1.10 Location of any installation rejected and the reason for rejection.

1.7.1.11 Approvals of any installation that was previously rejected, and a description of the corrective action.

1.7.1.12 Attachments: Listing of attachments to the Daily Report Log.

1.7.1.13 Signature: Signature of the field representative completing the report.

1.7.1.14 Reviewed: Signature of the construction supervisor.

1.7.2 As-Built Drawings

1.7.2.1 The field representative is responsible for the preparation of as-built drawings that describe the location, footages and dimensions of the installed facilities.

1.7.2.2 The field representative shall prepare two sets of separate gas and electric "as-built" drawings marked in red. Minimum gas "as-built" drawing requirements are as follows:

1.7.2.2.1 Marked up drawing showing actual location, footages and dimensions of the installed facilities.

1.7.2.2.2 Certified copies of the qualification records for all Welders/Plastic Joiners.

1.7.2.2.3 Testing documents including calibration documents for testing equipment.

1.7.2.3 Minimum electric "as-built" drawings require corrected construction drawing, marked in red, clearly showing changes to:

1.7.2.3.1 Location, size, type and footage of installed conduit, cable and/or overhead conductor.

1.7.2.3.2 Location, size, type and dimensions of manholes, splice boxes and/or equipment enclosures.

1.7.2.3.3 Location, size and type of poles and anchors.

1.7.2.3.4 Location, type and manufacturer's name plate data of equipment.

1.7.2.4 All as-built drawings shall be signed by both the field representative and construction supervisor verifying their accuracy.

1.7.2.5 It is recommended that the field representative complete and forward as-built drawing as work depicted on a specific drawing or in a specific area is completed.

1.7.3 Audit Documentation

The construction supervisor shall ensure the assembly of the following package of documentation for retention by the appropriate PGandE office.

1.7.3.1 As-built drawings with notation with regard to welding/joining inspection criteria.

1.7.3.2 Welder/joiner qualification records.

1.7.3.3 Actual footage and diameter of mains installed.

1.7.3.4 Actual footage and diameter of services installed.

1.7.3.5 Test reports (strength or leak tests).

1.7.3.6 Daily Report Logs (DRL's).

1.7.3.7 Type of plastic pipe.

1.7.3.8 Material supplier's certification.

2. Technical

2.1 Land and Land Rights

2.1.1 Description

All work relating to work practices, locations and stipulations dictated by PGandE Standards, permit or right-of-way requirements, and/or local governing codes.

2.1.2 Review Criteria

2.1.2.1 Specific right-of-way, easements, licenses, permit agreement for the work.

2.1.2.2 Site specific drawings for this work.

2.1.3 Procedures

The construction supervisor's responsibilities should include:

2.1.3.1 Ensure that the route of the facility has been properly staked pursuant to approved PGandE plans and specifications and right-of-way documents, as applicable.

2.1.3.2 Verify that trenching and other work including installation of facilities are within the rights-of-way, franchise areas, P.U.E.'s, etc., acquired for this facility.

2.1.3.3 Should any problems or deficiencies be noted, work should be stopped until resolution of problem/deficiency has been made to the satisfaction of PGandE.

2.1.4 Documentation

The field representative shall document on the Daily Inspection Report any problems or deficiencies and instructions issued to the Contractor to resolve the problems or deficiencies.

2.2 Trenching and Backfilling

2.2.1 Description

All work required to: (1) excavate the trenches including trench location, dimensions and extra depth excavation; and (2) pad the trench, shade the facilities and fill the trench including hauling stock piling, compacting and grading.

2.2.2 Review Criteria

2.2.2.1 Section 4, Trench Excavation and Section 5, Backfill and Compaction, of the Specific Conditions for Trenching in the Contract.

2.2.3 Drawings.

2.2.3.1 The Specific Conditions for Trenching.

2.2.3.2 Construction Drawings attached by reference to the Contract.

2.2.4 Procedure for Trenching and Excavating

2.2.4.1 The construction supervisor shall verify that the requirements of the contract are adhered to.

2.2.4.2 The field representative shall verify that trenching is performed in accordance with the Specific Conditions which includes requirements regarding trench location, cover and dimensions, extra depth, grades, padding, trench crossings, and trench protection.

The review shall include, but not be limited to, confirming that:

2.2.4.2.1 The ditch line is adequately staked.

2.2.4.2.2 The dimension and depth of trench is in accordance with the drawings. The depth of the trench shall be measured from the level of the finished grade.

2.2.4.2.3 The trench is kept free of water and in a workable condition.

2.2.4.2.4 Line crossings are undamaged or repaired to the satisfaction of the respective Company representative.

2.2.4.2.5 The trench bottom remains free of rocks, hard clods, welding rods, and debris.

2.2.4.2.6 Shoring is provided where required by the construction drawings, local governing codes, or common construction practice.

2.2.4.2.7 In excavations, soil softened by moisture is replaced with a thoroughly compacted backfill before the foundations or footings are poured.

2.2.4.3 The field representative shall document on a Daily Report Log the daily progress of trenching, a brief description of trenching activities and the following detailed information:

2.2.4.3.1 Locations, footages and depths of trenches excavated each day.

2.2.4.3.2 Number of excavations and size made to accommodate gas and/or electric facilities.

2.2.4.3.3 Description of any company or third-party damage and repairs, including name and title of representative approving the repair. Completes necessary accident reports.

2.2.4.3.4 Location and name or number of open-cut roads with description of measures taken to insure free flow of traffic.

2.2.4.3.5 Location, depth and length of any extra depth trenching including the reason for extra depth.

2.2.5 Procedures for Padding, Shading, and Backfill

2.2.5.1 The construction supervisor shall ensure that the requirements of the contract are adhered to by the Contractor, in addition to the applicable requirements of the project permits and State and local regulations.

2.2.5.2 The field representative's responsibilities may include, but not be limited to, confirming that:

2.2.5.2.1 Trenches are excavated to provide a uniform support for straight tangents of pipe.

2.2.5.2.2 Where rock or other hard material is encountered, the trench bottom is padded with sand or selected backfill material to

provide clearance from the objectionable surface when the facilities are in place.

2.2.5.2.3 Backfill material is suitable for backfill as described in the Specific Conditions for Trenching and is placed so that the facilities are undamaged.

2.2.5.2.4 After repair or replacement of damaged facilities, they are backfilled and protected to the satisfaction of the representative approving the repair.

2.2.5.2.5 Road crossings are backfilled and compacted to the satisfaction of the controlling agency and in accordance with the terms of the crossing permit.

2.2.5.2.6 The as-built measurement of the Company's facilities are complete prior to backfilling.

2.2.6.1 The field representative shall document on the Daily Report Log the daily progress of the backfill operation and include the following information:

2.2.6.1.1 Locations where compaction tests are specified by the Company or by permit stipulations.

2.2.6.1.2 Locations where special treatment of trench backfill is performed and methods used (see Specific Conditions for Trenching).

2.2.6.1.3 A record of approvals of backfill materials.

2.2.6.1.4 A record of approval for backfilling of Company facilities.

2.2.6.1.5 An estimate of the total cubic yards of imported backfill material hauled and placed during the day.

2.3 Electric Facility Installation

2.3.1 Underground

2.3.1.1 Description

All work related to non-Company installation of conduit, enclosures, vaults, boxes, equipment pads, primary CIC, and secondary direct buried cable.

2.3.1.2 Review Criteria

2.3.1.2.1 Specifications for Underground Facilities Installed by Applicant.

2.3.1.2.2 Drawings and Standards

A. Engineering Standards, Engineering Standard Drawings, and Construction Drawings attached by reference to the Contract.

B. General Order 128.

2.3.1.3 Procedures

2.3.1.3.1 The construction supervisor shall ensure that the requirements of the contract are followed.

2.3.1.3.2 The field representative's responsibilities may include, but not be limited to assuring:

A. Conduits:

(a) Proper depth and route.

(b) Minimum clearances are maintained between all electric conduits and other facilities.

(c) All conduits enter boxes and vaults at proper location and angle.

(d) All couplings are properly installed.

(e) All conduits are proved, fished, and capped.

B. Enclosures, Vaults, and Boxes:

(a) Proper size and traffic rating is installed at each location.

(b) Adequate rock base.

(c) Proper grade.

(d) Proper duct entrances.

(e) Proper grouting and sealing.

C. Transformer and Equipment Pads:

(a) Proper size and orientation at each location.

(b) Proper grade.

(c) Proper duct entrances.

(d) Adequate clearances and mechanical protection.

(e) Proper grouting and sealing.

D. Primary CIC:

(a) Proper size and quantity.

(b) Proper depth, route, and padding.

(c) Minimum clearances are maintained between CIC and other facilities.

(d) Proper bending radius is maintained.

(e) CIC is sealed in enclosures and vaults.

(f) Cable ends are sealed.

(g) Proper enclosure, vault, and pad entry.

(h) Adequate cable is left in enclosures or at pad for splicing, cable racking, and equipment hookup.

E. Direct Buried Secondary Cable:

(a) Proper size and quantity.

(b) Proper depth, route, and padding.

(c) Minimum clearances are maintained between direct buried cable and other facilities.

(d) Proper bend radius is maintained.

(e) Cable ends are sealed.

(f) Cable is not nicked, cut, or scraped.

(g) Proper box, enclosure, vault, and pad entry.

(h) Adequate cable is left in box or at panel for splicing and hookup.

F. Cable Installed in Conduit:

(a) Proper size and type of cable.

(b) Cable is pulled in direction indicated on construction sketch. If direction is not indicated on sketch, cable should be fed into duct at the end nearest to bends.

(c) Approved cable lubricant is used.

(d) Tension on cable does not exceed allowable limits.

(e) Cable is not nicked, cut or scraped.

(f) Proper bending radius is maintained.

(g) Adequate cable is left in enclosure or at pad for cable racking, splicing and/or equipment makeup.

(h) Non-metallic pulling lines are used in nonmetallic ducts.

(i) Cable ends are sealed.

G. Splices and Terminations:

(a) Proper splice or termination.

(b) Splices and terminations are installed per PGandE Standards.

(c) Cable is properly racked.

(d) Terminations can be properly operated.

(e) Cable is properly tagged.

H. Equipment:

(a) Proper size and rating.

(b) Proper placement on pad or in enclosure.

(c) Proper equipment numbers are installed.

2.3.1.4 Documentation

2.3.1.4.1 The field representative shall document on the Daily Report Log the daily progress of the electric underground installation and include the following information by job location number:

A. Quantity, size and number of ducts installed.

B. Size and rating of enclosures, vaults and boxes.

C. Size of transformer pads.

D. Quantity, size, and number of CIC primary cables installed.

E. Quantity, size, type, and number of direct buried cables installed.

F. Quality, size, type and number of cables pulled in conduits.

G. Number, size, and type of splices and terminations.

H. Nameplate data of equipment.

I. Any installation rejected and reason for rejection.

J. Any installation approved that was previously rejected and description of corrective action taken.

2.3.2 Overhead

2.3.2.1 Description

All work related to non-Company installation of overhead lines and facilities.

2.3.2.2 Review Criteria

2.3.2.2.1 Specification for Overhead Facilities Installed by Applicant.

2.3.2.2.2 Drawings and Standards

A. Engineering Standards, Engineering Standard Drawings, and Construction Drawings attached to reference to the contract.

B. General Order 95.

2.3.2.3 Procedures

2.3.2.3.1 The construction supervisor shall ensure that the requirements of the contract are followed.

2.3.2.3.2 The field representative's responsibilities may include, but not be limited to, assuring:

A. Poles and Hardware:

(a) Proper location.

(b) Proper size and class.

(c) Proper setting depth and compaction around pole.

(d) Proper framing.

(e) Adequate marking (visibility strips, joint pole tag, high voltage signs, etc.).

B. Anchors:

(a) Proper size, type, and installation.

(b) Proper lead.

(c) Adequate marking.

C. Conductor:

(a) Proper size and type.

(b) Proper ground clearance.

(c) Proper clearances between conductors and guys.

(d) Proper sag.

2.3.2.4 Documentation

2.3.2.4.1 The field representative shall document on the Daily Report Log the daily progress of the electric overhead installation and include the following information by job location number:

A. Size and class pole installed.

B. Size and type of anchor installed.

C. Quantity, size, type, and number of conductors installed.

D. Number and size of transformers installed.

E. Miscellaneous equipment installed.

F. Any installation rejected and reason for rejection.

G. Any installation approved that was previously rejected and description of corrective action taken.

2.4 Gas Facility Installation

2.4.1 Polyethylene Pipe Systems

2.4.1.1 Description

All work related to non-Company Personnel qualification, production joining (heat fusion and mechanical methods) and facility placement in trenches.

2.4.1.2 Review Criteria

2.4.1.2.1 Specific Conditions for Main and Service Installation Work.

2.4.1.2.2 Drawings

A. Gas Standards and Construction Drawings attached by reference to the Contract.

2.4.1.3 Procedures for Personnel Qualification

2.4.1.3.1 The construction supervisor shall verify that the requirements of the contract are adhered to.

2.4.1.3.2 The field representative's responsibilities may include, but not be limited to, confirming that:

A. Each workman who will join plastic pipe has been tested and qualified in accordance with Gas Standards D-34.

B. Each fusion is marked with a water-proof crayon with a unique number indicating the individual who performed the work. Marking methods that have a potential to damage the pipe shall not be used.

C. Each person who performs plastic fusion is qualified for the type and method of fusion used.

D. Upon the field representative's rejection of a production, the individual who performed the work must requalify in accordance with Gas Standard D-34 before being allowed to make further fusions.

E. Upon completion of this work or should the fuser leave the job, his qualification shall be voided.

2.4.1.3.3 The field representative shall document on a Daily Report Log the following information:

A. Separate listings of the names and social security numbers of each person who passed or failed the qualification test for plastic fusion. Copies of Company form 62-3235, "Plastic Joint Qualification Test Report" for each individual must be attached to Daily Report Log.

B. The type, size, and individual fuser(s) for each rejected plastic fusion made each day and the reasons for rejections.

2.4.1.4 Procedures for Production Work

2.4.1.4.1 The construction supervisor shall ensure that the requirements of the contract above are adhered to.

2.4.1.4.2 The field representative's responsibilities may include, but not be limited to, confirming that:

A. Minimum clearances are maintained between the pipe and other facilities.

B. The pipe shall be as slack as possible and no sections shall be in tension.

C. All fusions shall exhibit characteristics of "Typical Good Joint" shown on the attachment to Company Standard D-21 (page 12 of 12).

D. Temperatures of the heating irons are monitored with thermometers or temperature indicating crayons. The field representative shall verify the temperature in accordance with paragraph 3.3.5 of Company Standard D-21 prior to commencement of the work and at intervals not exceeding one week.

E. The fusion faces of the heating irons are clean and free of scratches, contaminations, or other defects.

F. Heating and cooling times are monitored by watches with seconds hand accurately measure elapsed time. Estimating by counting (e.g., 1,000-1, 1,000-2, . . .) is <u>not</u> satisfactory.

G. Defective heating irons shall be removed from the worksite.

H. Chamfering tools and cold rings are in good working condition.

I. Only tools that are specifically designed for polyethylene pipe systems are used in the fusion process.

J. All fusions are marked with identifying numbers indicating who performed the work.

K. Stub services are installed with sufficient length to permit use of squeeze-off equipment by PGandE at a later date.

L. Only the specified plastic materials are used.

M. The pipe is free of nicks, kinks, cuts, gouges, deep scratches, punctures and other imperfections.

N. Transition fittings are properly installed.

O. The pipe segments are free from stress due to line-up errors, lack of continuous support or backfill placement or compaction.

P. Work shall not be attempted when weather conditions are unsatisfactory and may impair the quality of the work.

Q. The open ends of pipe segments are sealed at the end of each day's work.

R. Installation of mechanical couplings are in accordance with the manufacturer's specifications as supplemented by the appropriate Company specification and that (1) the proper internal stiffeners are used and (2) the insertion depths are measured and marked on the pipe for reference.

2.4.1.4.3 The field representative shall document on the Daily Report Log the daily progress of the pipe installation and include the following information:

A. The length, size, and location of pipe and main appurtenances installed each day.

B. The size and location of stub services installed each day.

C. The number, length, size, and location of service extensions installed each day.

D. The number, manufacturer's model number, size, and location of mechanical couplings installed each day.

E. The number, size and type of fusions made each day.

F. The number and size of fusions to be destructively tested and the results of those tests.

G. Summary of weather conditions.

2.4.2 Steel Pipe Systems

2.4.2.1 Description

All work related to non-Company personnel qualification, production welding (arc or oxy-acetylene), and facility placement in trenches.

2.4.2.2 Review Criteria

2.4.2.2.1 Specific Conditions for Main and Service Installation Work.

2.4.2.2.2 Drawings:

A. Gas Standards and Construction Drawings attached by reference to the Contract.

2.4.2.3 Procedures for Personnel Qualification

2.4.2.3.1 The construction supervisor shall verify that the requirements of the contract are adhered to.

2.4.2.3.2 The field representative's responsibilities may include, but not be limited to, confirming that:

A. Each workman who will weld has been tested and qualified in accordance with Gas Standards D-30.

B. Each weld is marked with a waterproof crayon with a unique number indicating the individual who performed the work.

C. Each person who performs welding is qualified for the type and method of weld used.

D. Upon the field representative's rejection of a production joint, the individual who performed the work must requalify in accordance with Gas Standard D-30 before being allowed to make further welds.

E. Upon completion of this work or should the welder leave the job, his qualification shall be voided.

2.4.2.3.3 The field representative shall document on a Daily Report Log the following information:

A. Separate listings of the names and social security numbers of each person who passed or failed the qualification test for welding. Copies of Company Form 61-4344 for arc or oxy-acetylene for each individual must be attached to Daily Report Log.

B. The type, size, and individual welder(s) for each rejected weld made each day and the reasons for rejections.

2.4.2.4 Procedures for Production Work:

2.4.2.4.1 The construction supervisor shall verify that the requirements of the contract are adhered to.

2.4.2.4.2 The field representative's responsibilities may include, but not be limited to, confirming that:

A. Minimum clearances are retained between the pipe and other facilities.

B. All welds shall exhibit characteristics of acceptable welds shown on the references to Company Standard D-40 and visual welding inspection guidelines.

C. Beveling tools are in good working condition.

D. All welds are marked with identifying numbers indicating who performed the work.

E. Only the specified materials are used.

F. The pipe is free of nicks, kinks, cuts, gouges, deep scratches, punctures and other imperfections.

G. Transition fittings are properly installed.

H. The pipe segments are free from stress due to line-up errors, lack of continuous support or backfill placement or compaction.

I. Work shall not be attempted when weather conditions are unsatisfactory and may impair the quality of the work.

J. All segments are properly coated in accordance with PGandE standards and are free of damages, nicks, wrinkles, or holidays.

K. The open ends of pipe segments are sealed at the end of each day's work.

2.4.2.4.3 The field representative shall document on the Daily Report Log the daily progress of the pipe installation and include the following information:

A. The length, size, and location of pipe and main appurtenances installed each day.

B. The number, length, size, and location of service extensions installed each day.

C. The number, size, and type of welds made each day.

D. The number and size of welds to be destructively tested and the results of those tests.

E. Summary of weather conditions.

2.4.3 System Testing

2.4.3.1 Activity Description

All work required for the installation and removal of temporary test heads, pressurizing with air and testing of the completed gas distribution systems.

2.4.3.2 Review Criteria

2.4.3.2.1 Company Gas Standards A-34, M13, 13.1-13.4.

2.4.3.2.2 Specific Condition for Gas Main and Service Installation.

2.4.3.3 Procedures

2.4.3.3.1 Prior to testing, the field representative shall review the testing sequence proposed by the Contractor. This review shall consist of at least:

A. An attempt to maximize the section to be tested and to minimize the number of separate tests.

B. Review of calibration data of the testing instrumentation.

C. Recalibration of the testing instrumentation if required.

D. Assessment of compression equipment to assure adequacy.

E. Assurance that sufficient lengths of tested pipe will be available at the tie-in points.

F. Review of the materials needed for the piping connections and test heads.

2.4.3.3.2 Pressurizing and Testing

The field representative shall ensure that line pressuring is performed in accordance with Company Standard A-34. This responsibility may include, but not be limited to, ensuring that:

A. Blind flanges, bull plugs, or temporary test heads are installed on all connections not to be used for pressuring.

B. All manifolds and all connections are checked for leaks prior to the commencement of pressuring.

C. After the test pressure is reached, the inlet valve is closed to seal the section, and the injection line is vented. Confirm that all valves, flanges and connections on the test section have no visible leaks, and that all test instruments are operating properly.

D. All leaks must be repaired and a satisfactory test obtained before the system is acceptable.

E. All test pressure documents show the date and time completed, description of the test section, field representative's name and Contractor's name. construction supervisor to verify that all completed documents bear the signatures of the field representative and Contractor's Representative.

F. The temperature of thermoplastic pipe must be less than 100°F during the test and that significant weather data is included on the Field Representative's report.

G. During subfreezing temperatures, all test gauge lines and connections are suitably protected to prevent freezing and resulting in false readings.

2.4.3.3.3 Pressure Maintenance

Subsequent to testing, the field representative shall monitor the test pressure until such time PGandE's crew arrives to tie-in and purge the new extension. The field representative's authorization is required prior to depressurization.

A. Should the system fail to maintain pressure during the period after the test, damage to system must be suspected. Retesting the system is then necessary to confirm the system integrity.

2.4.3.4 Documentation

The field representative shall document on the Daily Report Log a brief description of the testing and the following information:

2.4.3.4.1 A specific description of the segment(s) tested.

2.4.3.4.2 Calibration data or dates for the testing instrumentation.

2.4.3.4.3 Results of testing, duration, and test pressure.

2.4.3.4.4 Any difficulties in achieving test pressure.

2.4.3.4.5 Any suspected leaks.

2.4.3.4.6 The results of any examination to discover leaks.

2.4.3.4.7 A detailed account of any failure including:

A. Nature of failure.

B. Location and depth.

C. Pressure at failure.

D. If due to faulty workmanship, the personnel responsible and the suspected reasons.

E. If due to material failure, all information regarding the material: code numbers, manufacturer, serial numbers, supplier, date of manufacture, etc.

2.5 Material

2.5.1 Activity Description

All work related to the supply, unloading, storing, and hauling to the installation site any Contractor furnished material and material furnished by PGandE.

2.5.2 Review Criteria

2.5.2.1 Specific Condition for Material.

2.5.2.2 Specific Conditions for Trenching and Backfilling.

2.5.2.3 Specific Conditions for Gas Main and Service Installation.

2.5.2.4 Specifications for Overhead Facilities Installed by Applicant.

2.5.2.5 Specifications for Underground Facilities Installed by Applicant.

2.5.2.6 PGandE furnished Material, Appendix A to Specific Conditions for Materials.

2.5.2.7 PGandE approved Suppliers of Material by Vendor Numbers for:

2.5.2.7.1 Gas Facilities

2.5.2.7.2 Electric Facilities

2.5.2.8 PGandE approved Suppliers of Material by Material Code Numbers for:

2.5.2.8.1 Gas Facilities

2.5.2.8.2 Electric Facilities

2.5.3 Procedures

2.5.3.1 The construction supervisor shall review the Specifications for the material received for gas and electric facilities to ensure that the material requirements of the contract are adhered to.

2.5.3.2 Delivery Acceptance

2.5.3.2.1 For applicable contractor furnished material, the field representative shall receive from the Contractor documents prepared by all material vendors that

certify that the furnished material complies with the applicable Company Specification(s) and Specific Conditions of the Contract for Material.

2.5.3.2.2 The field representative shall verify that any polyethylene pipe furnished for the work is new (by examination of the date stamps coded on the pipe by the manufacturer) and that no deterioration due to weathering has occurred. Deterioration may be due to improper storage procedures by the manufacturer and/or material vendor. In addition, any polyethylene pipe more than two (2) years old must be rejected.

2.5.3.2.3 The field representative shall observe the securing devices used to minimize damage to polyethylene pipe while in transit. Chains shall not be used and supplies or other equipment shall not be placed on top of the pipe.

2.5.3.2.4 The field representative shall observe the unloading of polyethylene pipe to assure that no damage occurs due to improper handling. Cables or hooks shall only be used when the silo or bulk packs have specific provisions for lifting that do not damage the pipe. Pipe shall be lifted from the truck to the ground, it shall not be dropped.

2.5.3.2.5 The field representative shall provide the Contractor a written itemized receipt of all material furnished by PGandE as part of the work. The Contractor shall sign the receipt to indicate acceptance of material.

2.5.3.3 On-Site Storage

2.5.3.3.1 Storage areas should be designated by the Contractor and access to the areas should be limited to prevent damage to materials. Some materials may require protected storage to prevent deterioration from sunlight and weathering.

2.5.3.3.2 Polyethlene pipe shall be stored so as to prevent the possibility of the material being damaged by crushing, gouging or piercing.

The height to which polyethylene pipe may be stacked depends on factors such as size, wall thickness, and ambient temperature. At no time should the height of the stack cause the pipe to be forced out of round. Silo packs as received from the manufacturer is the maximum height to which the plastic may be stacked.

Care must be taken at all times to protect polyethylene pipe from fire, excessive heat, harmful chemicals or mechanical damage.

2.5.3.4 Installation Material Acceptance

2.5.3.4.1 Backfill and padding materials shall be in accordance with the requirements detailed in the Specific Conditions for Trenching and Backfill.

2.5.3.4.2 All material to be permanently installed must be reviewed to assure any damage that may have occurred will not affect the operation of the distribution system. Polyethylene pipe shall be carefully observed for kinks, cuts, gouges, deep scratches, punctures, wall thickness thinning and other imperfections after each of the handling operations. Imperfections deeper than 10 percent of the pipe wall, defective or damaged pipe must be rejected.

2.5.3.4.3 The stringing of coils of plastic pipe may be accomplished by hand or from a reel. Coils should not be rolled over sharp objects or the pipe pulled over rough surfaces. The pipe should be protected from rocks or other abrasive material during this operation.

A. Coiled polyethylene pipe is confined with straps at intervals within the coils. As the pipe is uncoiled, only the outside straps should be cut. Precautions should be taken to avoid kinking the pipe. The pipe should not be uncoiled faster than the straps can be cut.

2.5.3.4.4 Field representative shall conduct random audits of the material to verify specification conformance. For polyethylene pipe, this includes measurements to confirm outside diameter and wall thickness.

2.5.3.5 Rejected Material

2.5.3.5.1 Upon rejection of any material for any cause, the construction supervisor shall:

A. Identify the damaged areas with an indelible marker so that corrective measures can be taken at a later date.

B. Mark the item so that identification can be easily noted that an item or section of an item is rejected.

C. Notify the Contractor and assure that the rejected material is removed from the job site or stored in a distinctive location where it cannot be inadvertently used.

2.5.4 Daily Report Logs

2.5.4.1 The field representative shall document the material reviewed and record the results of the review in the Daily Report Log.

2.5.4.2 The field representative shall document any material rejections with the following information:

2.5.4.2.1 Item rejected.

2.5.4.2.2 Code, model, and/or serial numbers of the rejected item.

2.5.4.2.3 Identification markings used to note rejection.

2.5.4.2.4 Reason for rejection.

2.5.4.2.5 Probable cause (manufacturer defect, improper handling, etc.).

2.5.4.2.6 The time and the name of the Construction Supervisor that authorized the rejection of the material.

2.5.4.2.7 Disposition of the rejected item.