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PACIFIC GAS AND ELECTRIC COMPANY

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December 7, 1978

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

Attention: Mr. Dean Cofer, Business Manager

Gentlemen:

Company proposes to amend the Guidelines for the Apprentice Transmission Mechanic Training Program as follows:

1. Add three new textbooks to the current list (Cooling Towers, Introduction to Compression, and Positive Displacement Compressors) for use in the study of Internal Combustion Engines/Compression. To accommodate the additional texts we propose to add 10 hours to the study of Internal Combustion Engines/Compression.
2. Replace the text, Blueprint Reading by Coover and Helsel, by one prepared by TPC. Retitle the course Blueprint Reading/Sketching. Reduce the number of hours required from 80 hours to 16 hours in the academic and add 8 hours to the OJT in the 0-6 month step.
3. Delete Mechanical Drawing.

If you are in accord with the foregoing and the attachment, 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 *J. W. Benbright*
Manager of Industrial Relations

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

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

June 19, 1979

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By *Dean Cofer*
Business Manager

GUIDELINES FOR THE
APPRENTICE TRANSMISSION MECHANIC TRAINING PROGRAM

I. Objective of the Apprentice Transmission Mechanic Training Program

The need for trained and fully qualified employees to accomplish the duties specified in the Journeyman Transmission Mechanic definition in a manner consistent with Company's Standards of Construction, Safety and Performance has resulted in this program which coordinates extensive on-the-job and related academic training. The systematic acquisition of knowledge and skill offers the employee in training the vehicle to attain self-confidence, assuredness and satisfaction in his work, and the correct and safe method of performing Company's work.

II. Training

During the 30 months of the apprenticeship, the apprentice will be offered job training divided into five time periods which coincide with the wage steps of the classification. In order that uniform and safe practices will be followed in the training period, assignments of duties and work procedures shall be provided in each of the wage steps as outlined in these guidelines and the attached schedules. The amounts of time or units of work as indicated in the schedules are believed sufficient to permit the apprentice to develop proficiency in such duty or work procedures, but should not be considered as inflexible dependent on the demonstrated ability of each individual apprentice.

The attached schedule also specifies those training periods in which the apprentice shall receive related academic or class training.

On-the-job training in the duties and amount of such training, as specified in the OJT schedule shall apply to the extent that such duties are performed by journeymen where the apprentice is headquartered. In the event such duty is not performed by journeymen at his headquarters and therefore not available in the training of an apprentice, it shall be noted in his work record. However, his progression through the apprenticeship or to journeyman or to higher classifications shall not be deterred for this reason.

If in the course of his apprenticeship or as a journeyman such duty later becomes available, he shall receive on-the-job training as may be required to attain expected journeyman proficiency. If, after a reasonable opportunity, he fails to attain such proficiency, his bids for progression to higher classifications may be subject to the provisions of Section 205.11 of the Agreement.

A. General Guidelines

1. It is intended that assignment of the specified hours of training on the job for each period of the apprenticeship will be made to the apprentice as early in the period as is practicable.
2. Hours shown on the OJT schedule exclude any travel time needed to reach the place where training is to be given; however, such hours include time needed to prepare tools and equipment.
3. Except where otherwise specified, apprentices shall be trained by assignment to work with qualified journeymen.
4. Progressive work experience in all phases of plant and pipeline work will be provided throughout the first five periods of the apprenticeship in accordance with the attached OJT schedule.
5. Assignments during the last or fifth period will be made for the purpose of rounding out the apprentice's experience.
6. Upon entering each new wage step and period of training, the work assignments in the period shall be such that the apprentice will gain the basic knowledge and confidence in himself, the equipment and the procedure being used. More complex assignments shall be made progressively as the apprentice gains in knowledge and capability.
7. Assignments of duties and work procedures in any period of training shall be confined to those specified for the period or of a prior period.
8. As an apprentice, he may be assigned to work without direct supervision as part of a crew only after he has been instructed and trained on the duties or work procedures required; has performed such work under direct supervision; and is capable of performing such work safely.
9. Except in emergency circumstances, an apprentice shall not be temporarily assigned to the classification of Transmission Subforeman. If assigned to such classification, the apprentice shall not be given the responsibility for duties or work assignments beyond his current step of training.
10. If an apprentice does not maintain an acceptable academic or on-the-job work level, notice shall be given to Union's Business Representative or his designate.

B. Guidelines for Training Period**1. 0-6 Month's Step**

During the first six-month period the apprentice will be introduced to the operating procedures and practices that apply to work performed in a compressor plant or station and on the pipeline. He shall gain a general understanding of the operation and maintenance of all the equipment associated with compressor plant and pipeline by participation in the maintenance work which is performed provided that:

- (a) All rotating mechanical equipment is removed from service by others.
- (b) The apprentice is not required to work on pressurized lines, vessels or headers.
- (c) Any work performed on plant shutdown equipment be done under the direct supervision of a journeyman.
- (d) Any work performed on pipeline be done under the direct supervision of a journeyman.
- (e) The apprentice is not required to operate heavy equipment near pressurized lines.

The apprentice shall be trained in the duties of a Transmission Mechanic, as indicated for the 0-6 month's period on the attached OJT schedule. In conjunction with such work, he shall become thoroughly familiar with the correct nomenclature of each piece of equipment and the part it plays in the transmission of natural gas.

The academic training for this period will include courses on blue-print reading, internal combustion engines, combustion gas turbines, pipeline patrol instructions, rigging, mathematics, drawings and instruction books and compression.

On-the-job training will coincide with related academic training. The Area Engineer will provide academic training as early as possible in the training period and will also administer agreed-upon tests when the academic training is completed.

- (a) Should the apprentice fail to receive a passing score in any of the academic training, he shall be given notice in writing of the areas which caused his failure.
- (b) After such failure, he shall be allowed to retake the test upon his request any time after one month's time from his failure. He shall be allowed two additional retests, spaced at least one month apart.
- (c) He shall complete the academic training and pass the agreed-upon test not later than the end of his ninth month of training, regardless of the number of retests that he has requested. His failure to meet this standard of achievement will be cause for his removal from the classification in accordance with Paragraph G4, 5 and 6a of the Master Apprenticeship Agreement.

- (d) His progression to the second step of the apprentice classification shall be in accordance with Paragraphs G3 and 5 of the Master Apprentice Agreement.

2. 7-12 Month's Step

The apprentice shall continue to perform functions of the prior period and, in addition, shall learn the duties outlined in the 7-12 month's period on the attached OJT schedule. He may work on pressurized lines, vessels and headers and may position heavy equipment with direction as part of the crew.

During this period he will receive basic instruction on different types of test equipment used in the compressor plant or on the pipeline and an introduction to machine shop application.

The academic training for this period will include a continuation of some of the previous courses and an introduction to procedures dealing with gas detecting, electronic pipe finding and pipe cleaning and wrapping along with machine shop theory and practice.

Agreed-upon tests will be given when the academic training is completed and if he failed to receive a passing score, the apprentice shall be notified in writing of the reasons for his failing.

His retesting opportunities shall be in accordance with the schedule outlined in the 0-6 month section of these guidelines. In the event of failure to meet either the academic or on-the-job standards of achievement, his progression shall be in accordance with Paragraphs G4, 5 and 6 of the Master Apprenticeship Agreement.

3. 13-18 Month's Step

The apprentice shall continue to perform the duties specified for prior periods and, in addition, learn the duties outlined on the OJT schedule for this period of his apprenticeship. He should operate with reasonable proficiency pipeline test equipment. He may work without direct supervision as part of a crew on plant shutdown equipment. While working with a journeyman, he shall learn the procedures for obtaining clearances to remove rotating equipment from service. Such work shall include shutting down compressors, generators, installation of man-on-line tags and observance of other safety procedures.

During this period the apprentice will be given continued training in heavy equipment operation and maintenance, plant analytic test equipment and additional machine shop experience which will include simple set ups, straight turning and boring, internal and external thread and bushing operations.

The academic training for this period will include a continuation of the previous periods' assignments and an introduction to basic hydraulics.

Agreed-upon tests will be given when the academic training is completed and if he failed to receive a passing score, the apprentice shall be notified in writing of the reasons for his failing.

His retesting opportunities shall be in accordance with the schedule outlined in the 0-6 month's section of these guidelines. In the event of failure to meet either the academic or on-the-job standards of achievement, his progression shall be in accordance with Paragraphs G4, 5 and 6 of the Master Apprenticeship Agreement.

4. 19-24 Month's Step

The apprentice shall continue to perform the duties specified for prior periods and, in addition, will learn the duties outlined on the attached OJT schedule for this period of his apprenticeship. He shall gain proficiency in the use of test equipment used in the compressor plant or station and become familiar with the correct operation while analyzing engine performance. He will learn to interpret test data under the direction of a journeyman. He shall be reasonably proficient in the operation and maintenance of light construction and motor vehicle equipment. During this period continued emphasis shall be placed on the apprentice's training in heavy equipment operation and maintenance.

The academic training for this period will include a continuation of the previous periods' assignments as shown on the academic schedule and an introductory course to couplings, gear trains and V-belt drives.

Agreed-upon tests will be given when the academic training is completed and if he failed to receive a passing score, the apprentice shall be notified in writing of the reasons for his failing.

His retesting opportunities shall be in accordance with the schedule outlined in 0-6 month's section of these guidelines. In the event of failure to meet either the academic or on-the-job standards of achievement, his progression shall be in accordance with Paragraphs G4, 5 and 6 of the Master Apprenticeship Agreement.

5. 25-30 Month's Step

The apprentice shall continue to work as provided in the prior periods and, in addition, will learn the duties outlined on the attached OJT schedule for the appropriate period. He shall demonstrate a reasonable proficiency in the maintenance and operation on all motor vehicles, light and heavy construction equipment.

The academic training for this period will include a continuation of the previous periods' assignments as shown on the academic schedule and two introductory courses on carpentry fundamentals and concrete technology.

Agreed-upon tests will be given when the academic training is completed and if he failed to receive a passing score, the apprentice shall be notified in writing of the reasons for his failing.

His retesting opportunities shall be in accordance with the schedule outlined in the 0-6 month's section of these guidelines. In the event of failure to meet either the academic or on-the-job standards of achievement, his progression shall be in accordance with Paragraphs G4, 5 and 6 of the Master Apprenticeship Agreement.

At the conclusion of this period, the apprentice should be able to provide routine maintenance on all plant and pipeline facilities and equipment.

6. 31-36 Month's Step

The apprentice will be allowed to do any work normally performed by a journeyman, working alone without direct supervision as required by the job. He will be provided additional on the job training as required to complete training.

C. Records

- 1. It shall be the responsibility of each apprentice to maintain his own records in collaboration with each Area Engineer and his immediate supervisor. Upon completion, each periodic record shall be submitted to the Area Superintendent.**
- 2. It shall be the responsibility of each Area Superintendent to keep necessary files of records on each apprentice and to ascertain that each apprentice has a reasonable opportunity of meeting the Standards of Achievement set forth in these guidelines.**
- 3. Such records shall at all times be available during the apprenticeship for review by the Department Administrator, the employee, and representative of the Union.**
- 4. In addition to and precedent to these guidelines, the provisions of the Master Apprenticeship Agreement are applicable.**

TRANSMISSION MECHANIC APPRENTICESHIP

RELATED ACADEMIC TRAINING SCHEDULE

SUBJECTS/MONTH	0-6	7-12	13-18	19-24	25-30
1. Operating Procedures & Practice	30	⊗			
2. Blueprint Reading/Sketching	16	⊗			
3. Internal Combustion Engines / Compression	18	⊗			
4. Combustion Gas Turbines	8	⊗			
5. Pipeline Patrol Instructions	2	⊗			
6. Rigging	20	20	⊗		
7. Mathematics	25	25	40	⊗	
8. Records, Drawings & Instruction Books	40	40	40	⊗	40
9. Reading a Micrometer		4	⊗		
10. Gas Detector-Electronic Pipe Locator		4	⊗		
11. Incidental Welding		4	⊗		
12. Pipe Cleaning & Wrapping		2	⊗		
13. Concrete Technology				⊗	24
14. Machine Shop Theory & Practice		15	15	15	15
15. Basic Hydraulics			30	50	⊗
16. Couplings, Gear Trains, V-Belt Drives				8	⊗
17. Carpentry Fundamentals					20

TRANSMISSION MECHANIC APPRENTICESHIP
ON-THE-JOB TRAINING SCHEDULE

OPERATIONS/MONTH	0-6	7-12	13-18	19-24	25-30
1. Operating Rules & Procedures	8				
2. Portable Power Tools	5	5			
3. Rigging	25	25			
4. Shop Tool Repair	20	30			
5. Gasoline Engine Driven Equipment	4	8			
6. Equipment Operation	6	6			
7. Drill Press		20			
8. Grinding & Chipping		10	10		
9. Use of Test Equipment		16	100	100	
10. Lathe Operation			30	25	25
11. Hydraulics			5	35	40
12. Use of Hand Tools	10	5	5	5	
13. Plant Work	50	50	50	50	50
14. Engine, Compressor & Related Equipment	250	250	250	250	250
15. Construction Equipment	100	100	200	300	300
16. Motor Vehicle Operation	16	60	60	32	32
17. Pipeline Patrol & Maintenance	50	50	50	50	50
18. Incidental Welding		8	16	16	
19. Blueprint Reading/Sketching	8				

TRAINING MATERIALS

A. Administrative Manual For Supervisors

One copy of this manual will be supplied to the Department Administrator, the three area engineers and each supervisor involved in the training of apprentices.

B. Apprentice Transmission Mechanic Training Manual

Each apprentice will receive a copy of the training manual when he receives his appointment to the apprentice classification. These manuals are available from the Department Administrator.

C. Text Books

Text books may be ordered by requisition. The Area Gas Engineer will approve the requisitions and make arrangements to provide additional reference material as required. The basic test set will include the following books:

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| (1) Machine Tool Operation, Part I | - Burghardt, Axelrod, Anderso |
| (2) Machine Tool Operation, Part II | - Burghardt, Axelrod, Anderso |
| (3) Blueprint Reading | - TPC Training |
| (4) Mathematics for Technical & Vocational Schools | - Slade, Margolis & Boyce |
| (5) Rigging Handbook | - Rossnagel |
| (6) Industrial Hydraulics | - Pippenger & Hicks |
| (7) Cooling Towers | - Resource Development Corp. |
| (8) Internal Combustion Engines | - Resource Development Corp |
| (9) Combustion Gas Turbines | - Resource Development Corp |
| (10) Couplings, Gear Trains & V-Belt Drives | - Resource Development Corp |
| (11) Carpentry Fundamentals | - Durbahn |
| (12) Concrete Technology | - Delmar |
| (13) Reading a Micrometer | - ASTME |
| (14) Intro to Compression | - Resource Development Corp |
| (15) Positive Displacement Compressors | - Resource Development Corp |

D. Miscellaneous

Miscellaneous stationery supplies can be drawn from the area headquarters. Comptroller's Department Standard Practice 762.1-1 covers instructions in accounting relating to the Apprentice Training Program.

In addition to the basic books provided, the apprentice may wish to purchase additional books for reference. You will help him decide which ones he should have. Many of the books listed below can be found at the maintenance headquarters and arrangements can be made to borrow them as needed.

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| (1) Basic Electricity | - Rufus P. Turner |
| (2) Machinery's Handbook | - Erik Oberg &
F. D. Jones |
| (3) The Operation & Maintenance of Storage Batteries | - PG&E Code #62-3319 |
| (4) The Operation & Maintenance of Ball and Roller Bearings | - PG&E Code #62-0260 |
| (5) Operating Manuals | - PG&E |
| (6) Standard Practices | - PG&E |
| (7) Instruction Books | - Miscellaneous |
| (8) Use and Care of Handtools and Measuring Tools | - Department of Army |
| (9) Tube Fitter's Manual | - Parker Hannifin Corp. |
| (10) The Pipefitters & Pipe Welder's Handbook | - Thomas W. Frankland |
| (11) ABC's of Handtools | - General Motors Corp. |
| (12) Piping Pointers | - Crane Company |
| (13) Pipefitter's Manual | - Cemetron Corp. |
| (14) Fabrication of Oxy-Acetylene Welded Steel & Wrought Iron Piping | - Linde Company |
| (15) The Circuit Rider, Fluid Power Circuits | - Logansport Machine Co. |

SIX MONTH

1. Learn Safety and First Aid as taught in the Safety Rule Book.
2. Become familiar with operating procedures and practices.
3. Follow proper clearance procedures and safety rules.
4. Prepare necessary reports of work performed in assigned maintenance duties.
5. Demonstrate ability to make proper use of hand tools.
6. Properly sling and hoist materials and engine parts; demonstrate hand signals as illustrated in the Safety Rule Book; inspect steel cable slings and rope slings used for engine maintenance.
7. Inspect and lubricate impact tools.
8. Inspect and repair a water meter, float controlled valve and a chemical pump.
9. Become proficient in packing pumps.
10. Achieve passing scores in all academic studies for the period.
11. Complete course requirements for Blueprint Reading, Internal Combustion Engines, Combustion Gas Turbines, Introduction to Compression and Positive Displacement Compressors.
12. Become familiar with various pipeline maintenance reports.
13. Become familiar with the operation of gasoline engine driven tools and other equipment used around the compressor station.
14. Learn the safety requirements for the operation of the construction and motor vehicle equipment used.