Pacific Gas and Electric Company
WE DELIVER ENERGY

LETTER AGREEMENT NO. 01-39-PGE

IBEW

PACIFIC GAS AND ELECTRIC COMPANY
INDUSTRIAL RELATIONS DEPARTMENT
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INTERNATIONAL BROTHERHOOD OF
ELECTRICAL WORKERS, AFL-CIO
LOCAL UNION 1245, I.B.E.W.
P.O. BOX 4790
WALNUT CREEK, CALIFORNIA 94596
925-933-6060

STEPHEN A. RAYBURN, DIRECTOR
AND CHIEF NEGOTIATOR

PERRY ZIMMERMAN, BUSINESS MANAGER

August 14, 2001

Local Union No. 1245
International Brotherhood of
Electrical Workers, AFL-CIO
P.O.Box 4790
Walnut Creek, CA 94598

Attention: Mr. Perry Zimmerman, Business Manager

Dear Mr. Zimmerman:

In Letter Agreement 97-92, a Joint Company-Union Committee was established to review the existing Title 200 and Title 300 Electrician Training Programs and recommend changes/updates as necessary. That committee has concluded its review of the full training program and provided a recommendation to the Joint Apprenticeship and Training Committee that the two programs be revised and combined into one Substation Apprentice Electrician Training Program. All academic requirements of Title 200 and 300 employees are the same and all provisions of the applicable Master Apprenticeship Agreement will apply.

In addition, Letter Agreement R1-99-57, which provides for making temporary training assignments of Title 200 Apprentices to Title 300 job locations, Title 300 Apprentices to Title 200 headquarters or Title 200 Apprentices to another Title 200 headquarters will remain in effect.

Attached is a copy of the revised training guidelines for Title 200 and 300 Apprentice Electricians.

In addition, the JATC recommends that this Sub committee remain in tact, with JATC oversight, providing the ability to reconvene on future Electrician training matters.

This proposal has been reviewed and approved to replace the existing programs by the Joint Apprenticeship and Training Committee.

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 the Company.

Very truly yours,

PACIFIC GAS & ELECTRIC COMPANY

By: _____
Stephen A. Rayburn
Director and Chief Negotiator

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

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

Aug 28, 2001

By: _____
Perry Zimmerman
Business Manager

Guidelines For The

Substation Apprentice Electrician Training Program

1.0 Introduction

1.1 objective

Three essential attributes demonstrated by highly qualified journeymen in the performance of their job are; safety, competence and confidence. The objective of the apprentice electrician training program therefore is to provide a training program that enables each apprentice to learn and perform required job tasks safely, competently and confidently.

1.2 overview

The training program is divided into six step levels that generally coincide with the wage steps of the apprentice classification. Each step level is to be completed within a six month time period.

Each of the first five step levels have a group of performance-based training modules and wage progression test modules called a step map. The step maps were developed using a systematic approach to learning and performance. The sixth step level does not have a step map and is for the purpose of rounding out the apprentice's experience.

Upon completing a step map and fulfilling the six month time period, the apprentice advances to the next step level. An apprentice who completes a step map in less than six months may elect to advance to the next training level, but is not eligible for a wage progression until the six month time period is fulfilled.

The major topic areas within this training guideline are:

2.0 Performance-based Training

2.1 overview

A performance-based training system develops an apprentice so that he or she can exhibit a desired performance. For this program, this is accomplished with the use of modules grouped together forming what is known as a map. Creating a map is a systematic process to develop learning and performance.

An inherent trait of performance-based training is the use of performance objectives. Every module in this program has a performance objective.

2.2 performance objective

A performance objective states the desired performance and must be satisfactorily performed by the apprentice in order to complete a module.

A performance objective consists of three essential elements:

1. a statement of the conditions needed for the performance such as tools and references,
2. the performance statement, and
3. a criterion that describes how well the objective is to be performed.

performance objective example:

GIVEN: an assortment of 47 substation hand tools

ACTION: identify the tools

CRITERION: tools identified with 95% accuracy within 5 minutes.

2.3 training module procedure

Most training modules are completed in four steps. Modules that have a written skill check as the performance objective are completed in the first two steps.

PROCEDURE:

Step 1. Read and study the module material

Step 2. Pass the written skill check

Step 3. Practice

Step 4. Pass the performance objective

2.4 wage progression test modules

Wage progression test modules have performance objectives, but provide no instruction. Their purpose is to provide a final verification of previously completed training modules

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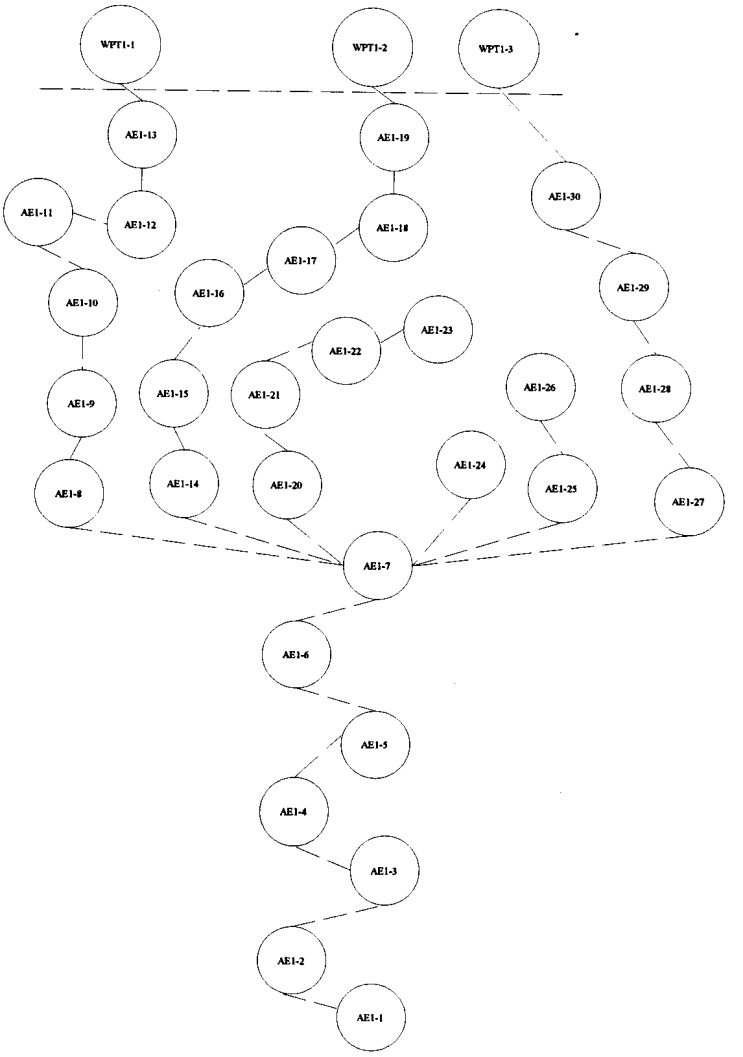
2.0 Performance-based Training, Continued

2.5 Step map

A step map graphically shows all the training modules and wage progression test modules to be completed for a given step level. To complete a step map, the apprentice begins by completing the modules at the bottom and then works to the top, following three rules:

1. modules shown in a series path are completed sequentially
2. modules in parallel paths are completed at the choice of the apprentice or assigned when the opportunity coincides with ongoing work
3. horizontal dashed lines mean that all modules below the line must be completed before doing modules above the line

Sample Step Map:



3.0 Administration Roles

3.1 administration roles overview

To have a successful training program it essential to have an effective administration system. For this training program, seven roles are identified to effectively administrate the training program; the roles are:

- program coordinator
- first line supervisor
- journeyman
- apprentice
- wage progression tester
- substation supervising specialist

3.2 program coordinator role

Functions of the program coordinator:

- responsible for the overall performance of the Substation Apprentice Electrician Training Program and monitoring of apprentice progress
- annually or as needed reviews the performance of the training program and makes updates and revisions accordingly
- negotiates training program updates and revisions with department management and the Joint Apprentice and Training Committee
- provides training program orientation to new apprentices, first line supervisors, and wage progression testers
- with HR assistance, enrolls new apprentices into the state certificate program
- coordinates with the first line supervisor, human resource representative and union representative to transfer an apprentice to a different headquarters for training purposes in accordance with Letter Agreement R1-99-57
- maintains the master training records for all apprentices
- coordinates with the substation supervising specialist and the first line supervisor to arrange wage progression test module evaluation(s)
- initiates apprentice wage progression hold or apprenticeship removal in accordance with the Master Apprenticeship Agreement

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3.0 Administration Roles, Continued

3.3 first line supervisor role

Functions of the first line supervisor:

- coordinates with the program coordinator regarding apprentice progress, training materials and wage progression test module evaluation
- conducts step map planning sessions with the apprentice
- responsible for administering training modules by:
  - providing up to two hours per week on the job for written skill checks
  - providing time on the job as needed for problem solving and performance objective testing
  - grading written skill checks; skill checks may be delegated but the sign-off is the responsibility of the first line supervisor
  - assigning journeymen to coach on concepts and the hands-on training
  - providing guidance to journeymen on a module's performance objective
  - evaluating the performance objective; the objective may be delegated but the sign-off is the responsibility of the first line supervisor
  - may evaluate wage progression test modules when coordinated with the substation supervising specialist
  - provides the program coordinator with the original completed written skill check and performance objective results sheets for the master training record and makes copies for the apprentice and on-the-job tracking

3.4 journeyman role

Functions of the journeyman:

- provides coaching on module content and concepts
- provides hands-on training for the apprentice
- provides feedback to the apprentice preparing for a performance objective

3.5 apprentice role

Functions of the apprentice:

- completes module instruction
- passes written skill checks
- practices until confident that the performance objective can be passed
- notifies the supervisor when he/she is ready for the module's written skill check or performance objective
- passes performance objective
- maintains a personal training record

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3.0 Administration Roles, Continued

3.6 wage progression tester role

The role of a wage progression tester is normally performed by a substation field specialist. Under circumstances where a specialist is not available the role may be performed by a first line supervisor, instructor or the program coordinator.

Functions of the wage progression tester:

- coordinates with the program coordinator or first line supervisor to schedule the wage progression test modules and any needed materials
- evaluates the apprentice's wage progression test module
  - if the module's performance objective is not achieved, the tester reviews areas needing improvement with the apprentice
  - if the performance objective is achieved, the tester signs-off the wage progression test module
- provides the program coordinator with the original wage progression test results sheet and makes copies for the apprentice and on-the-job tracking

3.7 substation supervising specialist role

Functions of the substation supervising specialist:

- assigns a wage progression tester to evaluate a wage progression test module
- in the event a field specialist is unavailable, coordinates with the program coordinator, instructor or first line supervisor to evaluate a wage progression test module

4.0 Administrative System

4.1	**administrative system orientation**	All apprentices, first line supervisors or wage progression testers new to the training program receive program administration orientation from the program coordinator.
4.2	**training materials**	The program coordinator is responsible for preparing and supplying all necessary training materials.
4.3	**apprentice orientation and enrollment**	Upon promotion to the substation apprentice electrician position the program coordinator schedules a meeting with the apprentice and the apprentice's first line supervisor. The purpose of the meeting is for training program orientation, enrollment into the state certificate program, and to deliver the Step 1 training materials.
4.4	**step requirements**	Each of the first five steps have a group of modules and wage progression tests modules called a step map (see step map; page 3) that are to be completed within a six month time period for advancement. Training at the sixth step level will be for the purpose of rounding out the apprentice's experience. An apprentice not meeting the Standards of Achievement for a step level is subject to advancement wages being withheld or removal from the apprenticeship in accordance with the Master Apprenticeship Agreement.
4.5	**apprentice work assignments**	An apprentice may be assigned to work without direct supervision only after he/she has been trained on the duties or work procedures required; has performed such work under direct supervision; and is capable of performing the work safely.
4.6	**transfer for training purposes**	At times during the apprentice's training, the job location may not allow the apprentice to practice or perform a module's performance objective. When this occurs, the program coordinator coordinates with the first line supervisor, human resource representative and union representative to transfer the apprentice to a different job location for training purposes in accordance with Letter Agreement R1-99-57.

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4.0 Administrative System, Continued

4.7 training records

The original completed written skill check and/or performance objective results sheet of each module is maintained by the program coordinator for the apprentice's master training record. Copies of the completed performance objective are maintained by the apprentice for a personal training record and the supervisor for on-the-job tracking.

Upon receiving the completed module results sheet, the program coordinator inputs the information into the Substation Apprentice Electrician database. An update report is sent to the supervisor acknowledging receipt of the training completion and a status of the apprentice's progress.

When an apprentice completes all the modules for a given step the program coordinator enters the step completion information into the company training database.

4.8 step planning

When an apprentice begins a new step level or changes job location, the supervisor conducts a step planning session with the apprentice. The supervisor reviews the step requirements and provides guidance for selecting modules that best match the work at the current job location.

4.9 administrative procedure for completing a module

Step 1. The first line supervisor assigns a journeyman to be available for coaching the apprentice on module content and concepts.

Step 2. The apprentice completes the self-paced module instruction and requests the written skill check. The supervisor provides up to two hours per week on the job to pass written skill checks.

Step 3. Upon completing the written skill check, it is graded and the results are reviewed with the apprentice.

A. If the written skill check is not satisfactory, the apprentice continues to study the instruction until he or she feels ready to attempt the written skill check again.

B. Upon satisfactory completion of the written skill check, the supervisor:

1. signs and dates the written skill check (only the first line supervisor may sign)
2. transfers the original to the program coordinator and makes copies for the apprentice and on-the-job tracking

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4.0 Administrative System, Continued

4.9 administrative procedure for completing a module (continued)

Step 4. The journeyman provides hands-on training and coaches the apprentice to perform the module's performance objective. When the journeyman and the apprentice concur that sufficient practice is achieved, the apprentice notifies the supervisor that he or she is ready for the module's performance objective.

Step 5. The apprentice performs the objective.

A. If the objective is not satisfactory, a review is given to the apprentice identifying areas needing improvement. The apprentice continues to practice until he or she is ready for the performance objective again.

B. Upon satisfactory completion of the performance objective, the supervisor:

1. signs and dates the performance objective test (only the first line supervisor may sign)
2. transfers the original to the field administrator and makes copies for the apprentice and on-the-job tracking

4.10 administrative procedure for completing a wage progression test module & step level progression

Step 1. After completing all required training modules the apprentice notifies the first line supervisor that he or she is ready for the wage progression test module.

Step 2. The first line supervisor notifies the program coordinator who coordinates with the substation supervising specialist to arrange for a wage progression tester. The program coordinator provides any necessary materials.

Step 3. The apprentice performs wage the progression test module objective.

A. If the objective is not satisfactory, the wage progression tester reviews the areas needing improvement with the apprentice.

B. Upon satisfactory completion of the objective, the wage progression tester:

1. signs and dates the wage progression test module
2. transfers the original to the field administrator and makes copies for the apprentice and on-the-job tracking.

Step 4. When the apprentice meets the standards of achievement for all wage progression test modules for a given step, the program coordinator initiates a step level progression.

5.0 Step Requirements For Step 1 (0 - 6 months)

5.1 overview During this six months, the apprentice completes the performance objectives for the thirty modules and the three wage progression test modules listed below.

5.2 titles for Step 1 modules

module number	module title
AE1-1	Basic Concepts, Electrical Quantities and Units
AE1-2	Basic Circuits, Laws and Measurements
AE1-3	Circuit Components
AE1-4	Multiple-Load Circuits
AE1-5	Analog and Digital Multimeters
AE1-6	Megger Operation
AE1-7	Conduit, Arrangement and Bill of Materials Drawings
AE1-8	Drill Motors and Drill Press
AE1-9	Manually Operated Knock-out Punch
AE1-10	Hydraulic Knock-out Punch
AE1-11	Manually Operated Pipe Bender
AE1-12	Hydraulic Pipe Bender Assembly
AE1-13	Hydraulic Pipe Bender Operation
AE1-14	Gas Powered Generator
AE1-15	Power Extension Cords
AE1-16	Precision Tools
AE1-17	Replacing a Gasket
AE1-18	Gasket Cutting
AE1-19	Bolt and Torque Techniques
AE1-20	Oil Sampling
AE1-21	GE Oil Dielectric Test (ASTM D-877)
AE1-22	Foster Oil Dielectric Test (ASTM D-1816)
AE1-23	Oil Filtering
AE1-24	Climbing Steel or Extension Ladders
AE1-25	Fuse Unit Assembly
AE1-26	Refusing a Cut-out
AE1-27	Oxy-acetylene Welding Unit Assembly and Use
AE1-28	Oxygen, Acetylene, Argon, Nitrogen and SF6 Gases
AE1-29	Gas Regulator Assembly and Use
AE1-30	Dew Point Meter Assembly and Use

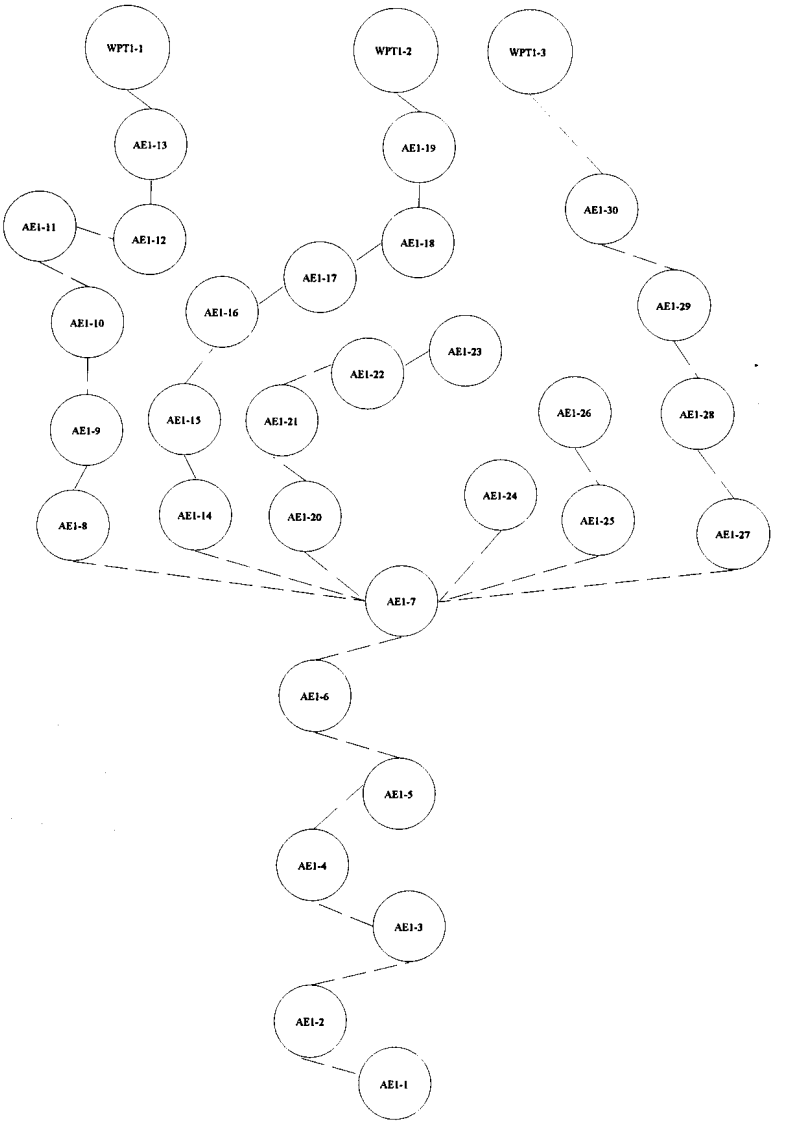
Continued on next page

5.0 Step Requirements For Step 1 (0 - 6 months), Continued

5.2 wage progression tests

WPT1-1	Junction Box and Conduit Installation
WPT1-2	Gasket Installation
WPT1-3	Dew Point Test a Nitrogen Bottle

Step 1 Map



6.0 Step Requirements For Step 2 (7-12 months)

6.1 overview

During the second six months of the apprenticeship, the apprentice learns and performs skills on the 23 topic areas listed below. Upon completion of module AE2-23 and all modules below its sequential path, the supervisor can coordinate with the field administrator to arrange a date and location for the wage progression test module, WPT2-3.

6.2 step 2 map

The step 2 course map on page 14 shows the various paths and sequence for completing the step modules.

6.3 centralized training

During this step, and after completing module AE2-11 the apprentice will be scheduled to attend a centralized facility for training on schematic drawing interpretation, wiring from schematics and electrical troubleshooting. Included with the training, Wage Progression Tests WPT2-1 and WPT2-2 will be administered.

6.4 titles for Step 2 modules

module number	module title
AE2-1	Magnetism and Electromagnetism
AE2-2	Alternating Current and Voltage
AE2-3	Power in AC Circuits
AE2-4	Capacitance
AE2-5	Inductance
AE2-6	Transformers
AE2-7	Use a AC Clamp-on Ammeter
AE2-8	Use a Phase Sequence Indicator
AE2-9	Electrical Devices
AE2-10	Electrical Symbols
AE2-11	Wire Numbering System

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6.0 Step Requirements For Step 2 (7-12 months), Continued

6.4 titles for Step 2 modules, *continued*

module number	module title
AE2-12*	Schematic Drawing Interpretation
AE2-13*	Wiring From Schematics
AE2-14*	Electrical Troubleshooting
AE2-15	Substation Power Transformer Construction
AE2-16	Substation Power Transformer Connections
AE2-17	Substation Power Transformer Nameplate
AE2-18	Substation Power Transformer Accessories and Support Equipment
AE2-19	Transformer Insulation Resistance Test
AE2-20	Perform a DGA Sample
AE2-21	Operate a Transformer Turns Ratio Test Set
AE2-22	Perform a Transformer Polarity Test
AE2-23	Perform a Transformer Turns Ratio (TTR) Test

*** completed at a centralized training facility**

6.5 wage progression tests

WPT2-1*	Wiring from Schematics
WPT2-2*	Schematic Interpretation and Troubleshooting
WPT2-3	TTR Test Transformer No-Load Tap Positions

*** completed at a centralized training facility**

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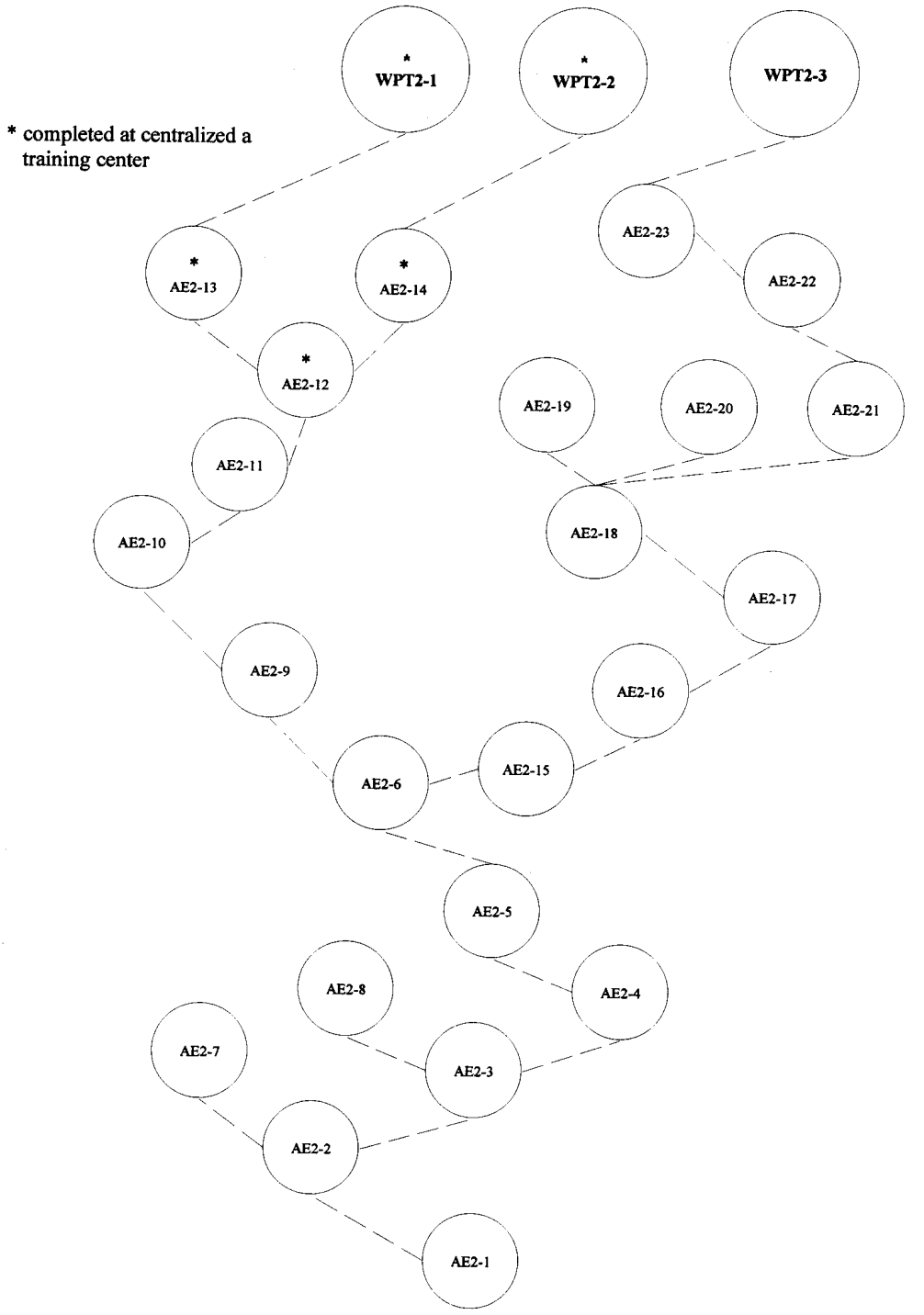
6.0 Step Requirements For Step 2 (7-12 months), Continued

Step 2 Map



7.0 Step Requirements For Step 3 (13-18 months)

7.1 overview

During the 13 to 18 months step of the apprenticeship, the apprentice learns and performs skills on the 25 topic areas listed. Wage progression test module, WPT3-1 can be administered upon completion of modules AE3-1 through AE3-17. Wage progression test module, WPT3-2 can be administered upon completion of modules AE3-18 through AE3-25.

7.2 step 3 map

The step 3 course map on page 17 shows the various paths and sequence for completing the step modules.

7.3 protective grounding training

At the beginning of this step apprentices complete modules on protective grounding. When the apprentice completes the protective grounding modules, AE3-1 through AE3-7, the apprentice is qualified to do protective grounding and be a grounding observer.

7.4 titles for Step 3 modules

AE3-1 Purpose of Grounding, Hazards and Definitions
AE3-2 Types of Grounding Equipment
AE3-3 Inspection and Testing of Grounding Equipment
AE3-4 Vehicle Grounding
AE3-5 Equipment Grounding
AE3-6 Protective Grounding
AE3-7 Protective Grounding Job Planning and Tailboard
AE3-8 Diodes
AE3-9 DC Power Supplies
AE3-10 Transducers
AE3-11 Printed Circuit Board Construction and Repair

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7.0 Step Requirements For Step 3 (13-18 months), Continued

7.4	7.4 (continued)	AE3-12	Battery Purpose, Types and Safety
		AE3-13	Battery Charger Purpose and Operation
		AE3-14	Battery Installation and Replacement
		AE3-15	Battery Monthly Maintenance
		AE3-16	Battery Quarterly Maintenance
		AE3-17	Cell Replacement
		AE3-18	Overview of Power Circuit Breakers
		AE3-19	Overview of Power Circuit Breaker Mechanisms
		AE3-20	Power Circuit Breakers Lubricants
		AE3-21	Overview Power Circuit Breaker Diagnostics
		AE3-22	Micro-Ohm Testing
		AE3-23	Megger Testing
		AE3-24	Breaker Time Analysis
		AE3-25	Highpot Testing Vacuum Bottles
7.5	**Wage Progression Tests**	WPT3-1	Battery Maintenance
		WPT3-2	Power Circuit Breaker Diagnostics

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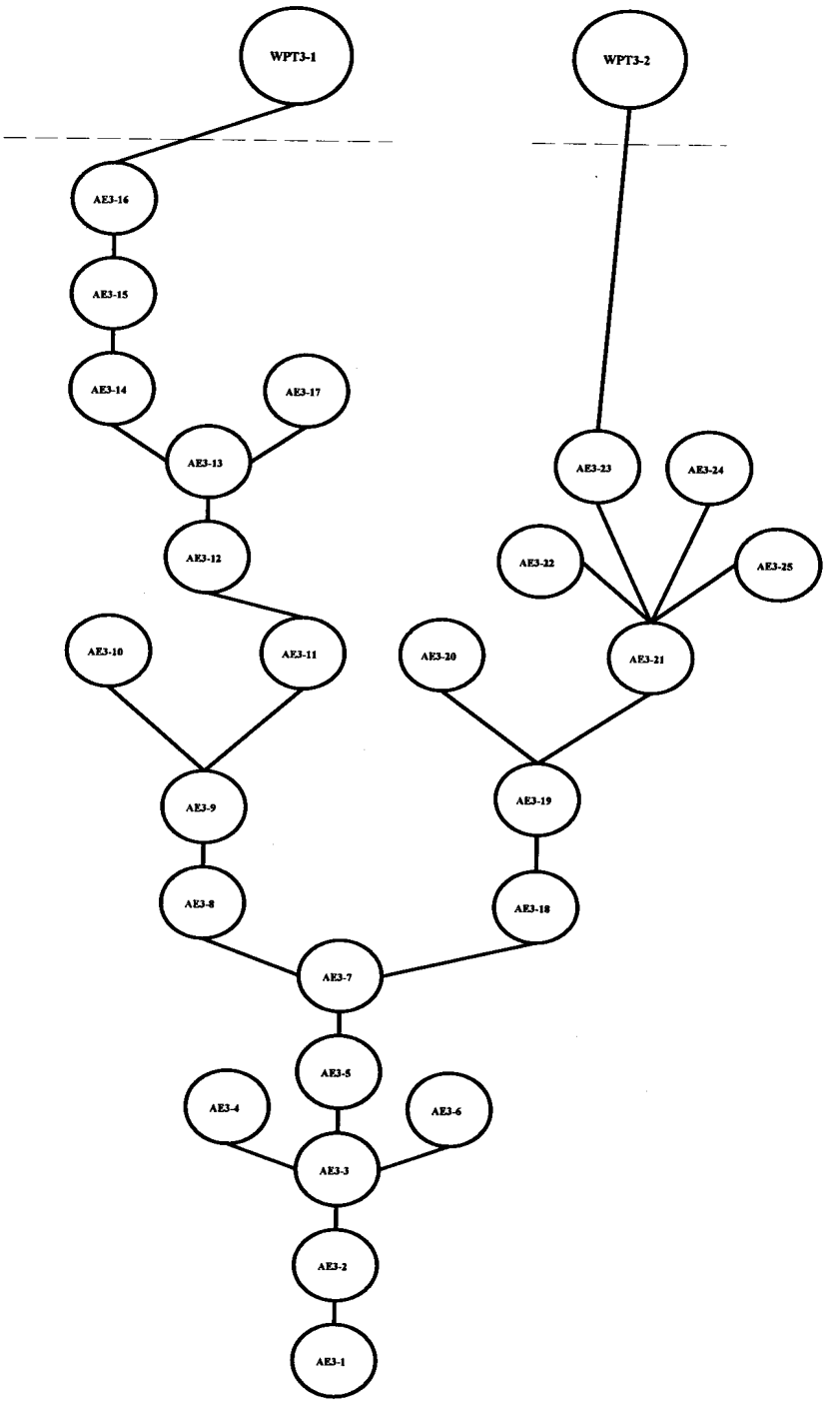
7.0 Step Requirements For Step 3 (13-18 months), Continued

Step 3 Map



8.0 Step Requirements For Step 4 (19-24 months)

8.1 overview

The 19 to 24 months step of the apprenticeship focuses on four main areas; Air Switches, Switchboard Cut-outs, Computer Basics and Load Tap Changers The wage progression test modules, can be completed once the modules under the horizontal dashed line are completed (see map on next page .) All modules must be completed in order to advance to the next step of the apprenticeship.

8.2 step 4 map

The step 4 course map on the next page shows the various paths and sequence for completing the step modules.

8.3 titles for Step 4 modules

Air Switches

- AE4-1, Air Switch Overview
- AE4-2, Air Switch Assembly and Adjustment
- AE4-3, Circuit Switcher Inspection & Diagnostic Tests

Switchboards

- AE4-4, Energized Switchboard Procedures
- AE4-5, Switchboard cut-out with an Oxygen Acetylene Torch
- AE4-6, Switchboard cut-out with a Plasma Cutting Torch

Computer Basics

- AE4-7, Computer Basics

Load Tap Changers (LTC's)

- AE4-8, Voltage Regulation Principles
- AE4-9, Load Tap Changer Principles
- AE4-10, Types of LTC Construction
- AE4-11, LTC Operation

8.4 Wage Progression Tests

WPT4-1 Air Switch Operation and Circuit Switcher Diagnostics
WPT4-2 LTC Construction and Operation

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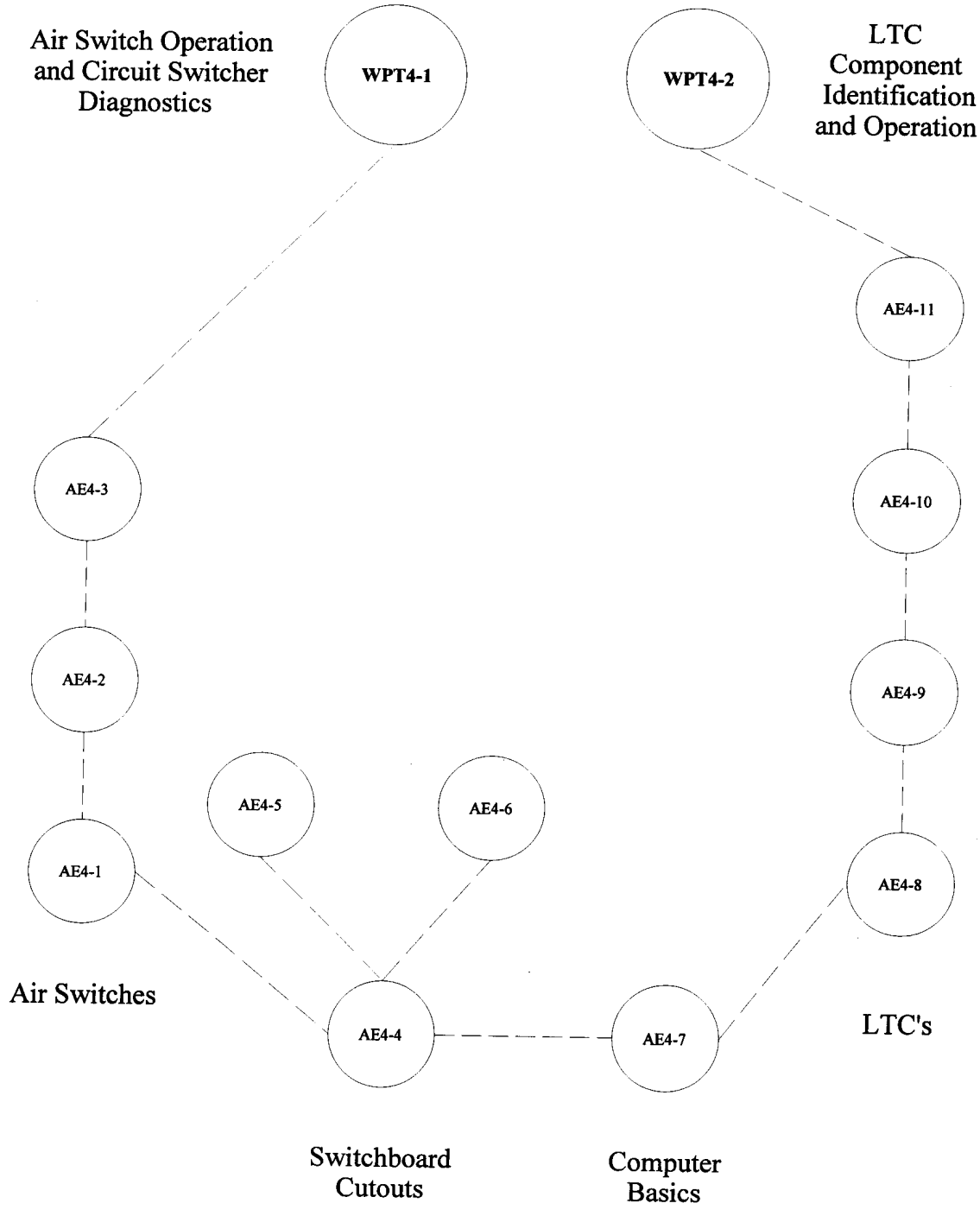
8.0 Step Requirements For Step 4 (19-24 months), Continued

Step 4 Map



9.0 Step Requirements For Step 5 (25-30 months)

9.1 overview

The 25 to 30 months step of the apprenticeship provides training for potential devices, current transformers, test supplies, metering and relays. The wage progression test modules can be completed once the modules under the horizontal dashed line are completed (see map on next page). All modules must be completed in order to advance to the next step of the apprenticeship.

9.2 step 5 map

The step 5 course map on the next page shows the various paths and sequence for completing the step modules.

9.3 titles for Step 5 modules

Potential Devices
- AE5-1, Potential Devices Purpose and Operation

Current Transformers
- AE5-2, Current Transformer Purpose and Operation
- AE5-3, Current Transformer Testing

Test Supplies
- AE5-4, Test Supply Set-ups and Use

Metering
- AE5-5, Metering Purpose and Operation
- AE5-6, Volt Meter Calibration
- AE5-7, Amp Meter Calibration

Relays
- AE5-8, Relay Purpose and Operation
- AE5-9, Auxiliary Relay Testing
- AE5-10, Reclosing Relay Testing
- AE5-11, Overcurrent Relay Testing

9.4 Wage Progression Tests

WPT5-1 Amp / Volt Meter Calibration
WPT5-2 Overcurrent Relay Testing

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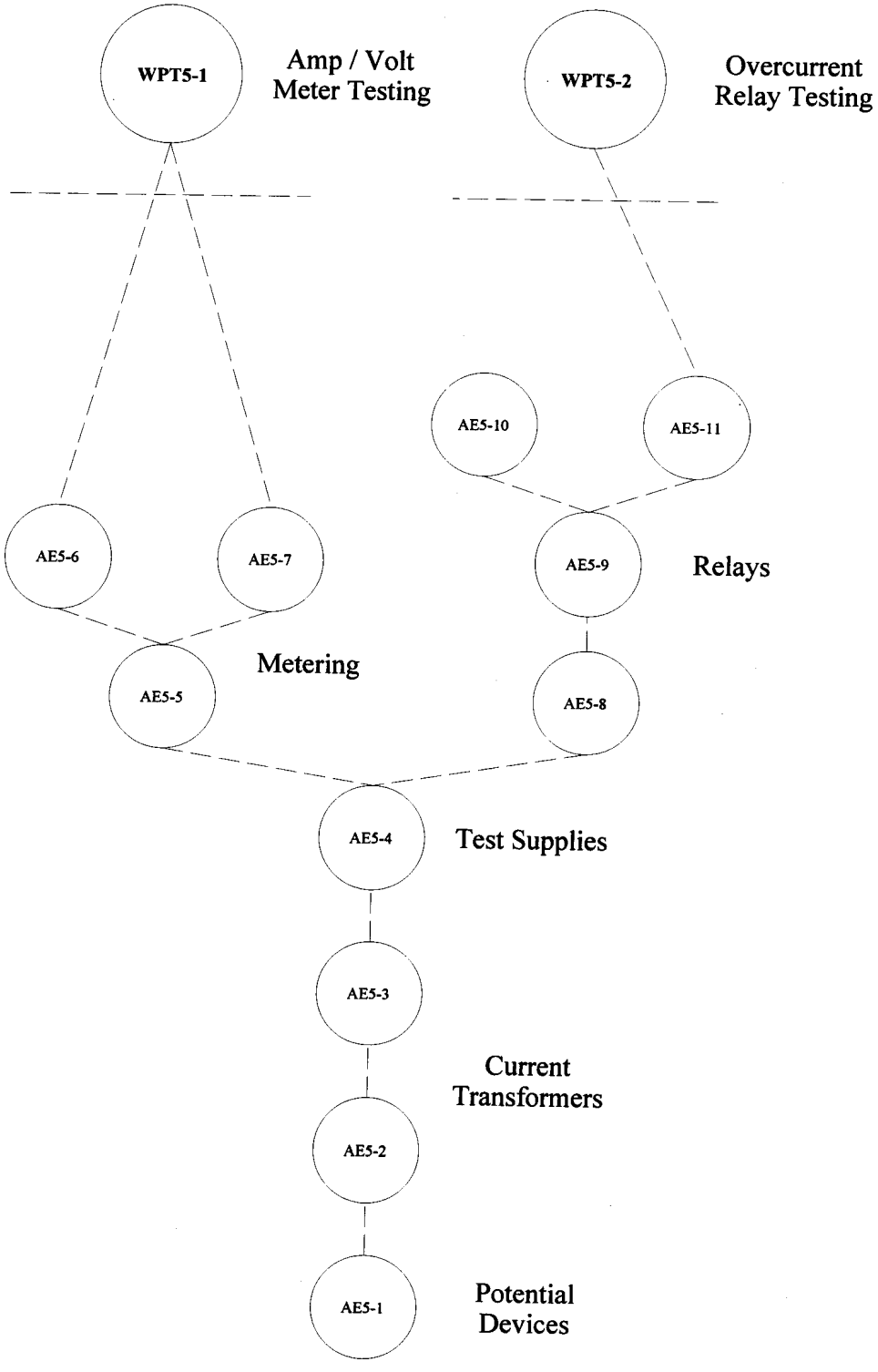
9.0 Step Requirements For Step 5 (25-30 months), Continued

Step 5 Map



10.0 Step Requirements For Step 6 (31-36 months)

10.1 requirements The apprentice will be allowed to do any work normally performed by a journeyman, under the direction of a journeyman, as required by the job.