



**Training Proposal for:**

**Inland Training Fund dba Inland Empire Electrical Training Center**

**Agreement Number: ET17-0912**

**Panel Meeting of:** September 23, 2016

**ETP Regional Office:** North Hollywood

**Analyst:** M. Webb

**PROJECT PROFILE**

Contract Attributes:	Apprenticeship Retrainee Priority Rate Veterans	Industry Sector(s):	Construction  Priority Industry: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Counties Served:	San Bernardino, Riverside, Mono, Inyo	Repeat Contractor:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Union(s):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Intl. Brotherhood of Electrical Workers (IBEW) Locals 440 & 447		
Turnover Rate:	≤20%		
Managers/Supervisors: (% of total trainees)	≤20%		

**FUNDING DETAIL**

<b>Program Costs</b>	+	<b>Support Costs</b>	=	<b>Total ETP Funding</b>
\$749,600		\$51,840 8%		\$801,440

In-Kind Contribution:	50% of Total ETP Funding Required	Inherent
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**TRAINING PLAN TABLE**

Job No.	Job Description	Type of Training	Estimated No. of Trainees	Range of Hours		Average Cost per Trainee	Post-Retention Wage
				Class / Lab	CBT		
1	Retrainee Journeyman	Business Skills, Computer Skills, Commercial Skills, OSHA 10/30	100	8-200	0	\$564	\$21.28
				Weighted Avg: 24			
2	Retrainee Apprentice Local 440	Commercial Skills	140	8-210	0	\$2,780	\$21.28
				Weighted Avg: 200			
3	Retrainee Apprentice Local 447	Commercial Skills	98	8-210	0	\$2,780	\$21.28
				Weighted Avg: 200			
4	Retrainee Apprentice Veterans	Commercial Skills	30	8-210	0	\$2,780	\$21.28
				Weighted Avg: 200			

**Minimum Wage by County:** \$21.28 per hour Statewide (Priority Industry).  
**Health Benefits:**  Yes  No This is employer share of cost for healthcare premiums – medical, dental, vision.  
**Used to meet the Post-Retention Wage?:**  Yes  No  Maybe  
 Participating employers may use health benefits to meet the Post-Retention Wage.

Wage Range by Occupation		
Occupation Titles	Wage Range	Estimated # of Trainees
<b>Job Number 1</b>		
Journey-level Electrician	*	100
<b>Job Number 2-Local 440 (Riverside)</b>		
Apprentice Electrician		140
<b>Job Number 3-Local 447 (San Bernardino)</b>		
Apprentice Electrician		98
<b>Job Number 4-Veterans</b>		
Apprentice Electrician	**	30

\* Journeyman wages vary by occupational specialties and by region. This wage is for Wireman at Local 447 (San Bernardino). The wage is \$36.56 for the same occupation at Local 440 (Riverside).

\*\* The Job Number 4 wages in this table reflect both Locals 440 and 447.

## **INTRODUCTION**

The Inland Training Fund (ITF) was founded in 1985 to jointly manage the training trust funds for IBEW Local 440 (Riverside) and Local 447 (San Bernardino) ([www.inlandempirejatc.org](http://www.inlandempirejatc.org)). Each Local sponsors a separate apprenticeship program, as registered with the Division of Apprenticeship Standards. The ITF manages Apprentice and Journeyman training for both programs. These programs were established through collective bargaining between Locals 440 and 447, and the Southern Sierras Chapter National Electrical Contractors Association (NECA).

The function of the ITF is to oversee and fund training expenses. Due to their closeness in proximity, Locals 440 and 477 share one main training site located in San Bernardino, known as the Inland Empire Electrical Training Center. Other training sites will include the City of Palm Springs, Blythe; and various locations, as new projects open with a need to train onsite. This is the first ETP Agreement with ITF.

Both programs prepare tradesmen for the electrical, transportation, and telecommunication industries. Local 440 (Riverside) currently serves approximately 218 Apprentices and 488 Journeymen. Local 447 (San Bernardino) serves approximately 151 Apprentices and 646 Journeymen.

According to ITF, the electrical industry faces an increased need for electricians to replace the high volume of Journeymen Electricians that are due to retire in upcoming years.

### **Apprenticeship Program**

The Panel is authorized to fund Apprentice training that does not displace any other source of government funds, or replace an existing apprenticeship program approved by the Division of Apprenticeship Standards (DAS). ETP funding is designed to supplement cost of delivery for the Related and Supplemental Instruction (RSI) portion of DAS-approved apprenticeship training. Depending on the type of trade, apprenticeship programs vary in length. In this case, both programs are for five years.

Apprentice programs are typically sponsored by a Joint Apprenticeship Training Committee (JATC). A JATC is created through collective bargaining, with an equal number of members appointed by union and management with employer contributions to a training trust fund. The employers are not “participants” but are signatories to the Collective Bargaining Agreement.

RSI is traditionally delivered as class/lab, and ETP does not reimburse CBT delivery for apprenticeship training. The curriculum is developed with input from DAS and a designated Local Educational Agency (in this case Norco College). The Apprenticeship Program allows reimbursement for up to 200 hours of RSI plus OSHA 10, per-apprentice, which may also include OSHA 30. (Journeymen are capped at 200 hours.)

For the building trades, it is not customary for workers to be employed for a standard retention period of 90 consecutive days with one employer. In that instance, the Panel may substitute non-consecutive hours worked for retention. This modified retention period must be no less than 500 hours within 272 days with more than one employer. Both the standard and modified retention periods will apply to this proposal.

To ensure ETP does not displace Montoya Funds, Apprenticeship reimbursement is reduced by \$5, reducing the priority industry rate from \$18 to \$13 per hour. In addition, the Panel adopted a “blended rate” for Journeymen, reflecting the fact that they may be employed by a variety of

contractors over the two-year term of contract ranging from large employers, to small ( $\leq 100$  employees). This is \$22 per hour, midway between the Priority Industry standard rate (\$18) and Small Business rate (\$26).

The ETP wage for Apprentices is no less than \$21.28 per hour, tracking the Special Employment Training wage as modified for priority industries. However, the actual wages paid are shown in the Training Plan Table and contract when they exceed \$21.28, for both Apprentices and Journeymen.

## **PROJECT DETAILS**

Under this Agreement, training will follow, and expand upon, the RSI coursework for Apprentice, and will upgrade skill sets for Journeymen as requested by employers and property owners.

Employers in the Inland Empire require skilled Electricians to work on solar projects, schools, hospitals, and prisons. The signatory employers with Locals 440 and 447 have already begun work on the Indio Jail; a new tower at a local Casino/Hotel; new schools; a new community hospital, and remodels of two Kaiser Hospitals. Trainees will learn how to plan, layout, install, repair, and maintain electrical equipment.

Modernization, and expansion into new sectors of the industry, have resulted in major changes in coursework. Commercial Skills training under this Agreement enrich traditional classroom instruction in the following aspects:

1. Implementing conservation and recycling practices
2. Establishing OSHA and customer safety requirements
3. Using temporary power during construction
4. Installing electrical service for a buildings infrastructure
5. Installing and maintaining alternative energy generation systems
6. Planning and installing raceway systems
7. Energy Efficient lighting and equipment control systems

A shift from analog to digital equipment has also created a need for extensive training to remain up-to-date in technology and equipment. As well, recent changes in state energy requirements affect compliance with California's Building Energy Efficiency Standards. Training provided through ITF will ensure Apprentices are able to certify that electrical systems are in compliance with mandates for building occupancy. New mandates under SB 54 (Stats. 2013, Ch. 795; Hancock) require that at least 60% of the Journeymen working on specified sites (e.g. chemical waste) must be graduates of an apprenticeship program approved by DAS. This applies to all Journeymen working within an apprenticesable occupation.

Green training will be a focus of training, as needed to meet the demand for energy efficient construction methods and technologies. Advanced lighting controls and certified acceptance testing is becoming a required feature in large commercial buildings, pushing employers to train their electricians in green standards. The need for electrical vehicle infrastructure training is also growing as the purchase of electric vehicles continues to increase.

## **Training Plan**

Training topics are focused on new and emerging technologies, as discussed above.

**Business Skills (5%):** Training will be offered to Journey-level workers to teach electricians to use collaborative bidding, manage construction projects, and improve project development practices.

**Commercial Skills (80%)** Training will be offered to all occupations to increase trainee knowledge and skill sets in the electrician industry.

**Computer Skills (5%):** Training will be offered to Journey-level workers to give Electricians the tools required to read and modify blueprints using AutoCAD. Training will also include utilization of computer software programs to schedule and manage projects, operation of job planning, and review project requirements, budgets, and timelines.

**OSHA 10/30 (10%):** Training will be offered to all Journeyman occupations in the basics of safety and health to assure workers are aware of workplace hazards and understand their rights as workers. This training is a series of courses “bundled” by industry sector and occupation. It consists of 10 hours of classroom or CBT training for journey-level workers and 30 hours for frontline supervisors. Completion of the training results in a certificate that expands employment opportunities. The coursework must be approved by Cal-OSHA, and the instructors must be certified by Cal-OSHA.

### **Commitment to Training**

Employers will continue to make contributions to the two training trusts administered by ITF, based on hours worked by Apprentices and Journeymen.

ETP funds will not displace the signatory employers’ existing financial commitment to training. Safety training is, and will continue to be, provided in accordance with all pertinent requirements under state and federal law.

#### ➤ Training Infrastructure

Four administrative staff at ITF are dedicated to this training project. They will assist with marketing, recruitment needs assessment, and training schedules. Strategy Workplace Communications has also been hired to perform administrative services.

### **Veterans Apprentice**

Military applicants with a DD214 who have a minimum of two years of electrical/electronic experience may become eligible following an oral interview and aptitude test. This applies to both apprenticeship programs (Locals 440 and 447).

### **Marketing and Support Costs**

Journeyman training will be marketed through direct mailings, informational flyers, personal contacts, telephone calls, public service announcements, emails, and ITF’s website; class information will be disseminated throughout the year to all Apprentice and Journey-level workers within the Inland Empire. Application announcements for the Apprentice program are also provided to local, state, and federal agencies, high schools, community colleges, and community-based organizations, by way of recruitment. ITF is requesting 8% support costs to fund additional recruitment and assessment efforts that will ensue over the length of the project.

### **Curriculum Development**

Signatory employers and union representatives provide continuous feedback to ITF in order to improve the Apprenticeship curriculum, and Journeyman skill-upgrade training program.

Feedback is based upon workplace performance, customer requests and needs of the industry, as well as trainee evaluations following completion of coursework.

### **Training Qualifications/Coordinator**

ITF has a total of 28 instructors who provide all training for its Apprentice and Journeymen training programs. Instructors are former and current members of the trade, and are considered subject matter experts. Training is center-based, in San Bernardino; or provided at other ITF locations.

### **RECOMMENDATION**

Staff recommends approval of this proposal.

### **DEVELOPMENT SERVICES**

ITF retained CalFED in Sacramento and Strategy Workplace Communications (Strategy) in Oakland to assist with development of this proposal at no cost.

### **ADMINISTRATIVE SERVICES**

Strategy will perform administrative services in connection with this proposal for a fee not to exceed 13% of payment earned.

### **TRAINING VENDORS**

N/A

**Exhibit B: Menu Curriculum****Class/Lab Hours**  
**Journeyman Training**

8-200

Trainees may receive any of the following:

**COMMERCIAL SKILLS**

- Codeology
- National Electrical Code
- Other Recognized Standards (Installation Changes)
- Plan, Build, and Use
- Related Standards (Mandatory and Permissive Rules)
- Special Occupancies and Equipment
- Arc Flash

## Analog/Digital Circuit (AC/DC) Principles

- Math for Electricians
- Ohm's Law
- Generators
- Inductance/Reactance
- Series/Parallel Circuits

## Grounding

- Grounding and Bonding
- National Electrical Code Articles
  - 100-Definitions and Provisions
  - 110-Requirements
  - 90-Introduction
  - Chapters 1-4
- Significant Changes to National Electric Code

## Fire Alarm Systems and Installations

- Definitions and Systems
- Initiating Devices and Notification Systems
- National Electrical Code and Installation Requirements
- Start Up and Check Out Procedures
- National Fire Protection Act, 1972 (NFPA 72)

## Fire Life Safety

- National Electrical Code (Relating to Fire Alarms)
- National Electrical Code Article 725
- National Electrical Code Article 760
- NFPA 72
- Principles of Electronics

## Industrial Motor Control

- Control Relays and Timers
- Jogging and Plugging Controls
- Manual Starters and Magnetic Coils

- Push Buttons, Selector Switches, and Mechanical Devices
- Solid State Electronic Devices
- Variable Frequency Drives

#### Programmable Logic Control (PLC)

- Developing Ladder Programming
- Introduction to Programmable Equipment
- Programming Programmable Logic Controllers
- Using Timers and Counters in Logic Programs
- Writing a Program

#### Electrical Design

- 3 and 4 way Switching
- Design of Electrical Circuits
- Magnetic Motor Control and the Code
- LonWorks and Building Automation
- Transformers and the Code

#### Voice, Data, and Video

- Audio Distribution
- CCTV Security Surveillance
- Computer Networking
- Fiber Optics
- Telephonic Interconnect

#### Industry Specific Skills

- Solar Panel Installation
- Solar Photovoltaics
- Building Automation Systems
- Confined Space Entry
- Specialized Tools
- Conduit Bending
- Rigging and Lifting
- Firestop Installation
- Blueprints and Schematics
- Work Flow and Resources
- Proper Installation and Use of Testing and Auditing Materials and Equipment (Green Training)
- Understanding New Technologies and Changes to Industry Standards (Green Training)
- Safe Working Practices\*
- Advanced Instrumentation and Motor Controls
- Programmable Logic Controllers
- Advanced Welding
- Architecture Designs and Advanced Plan Reading
- Management and Monitoring of Materials
- Testing Materials and Equipment-Proper Set-Up and Use (Green Training)
- Understanding Changes to Industry Standards (Green Training)

**CALCTP (California Advanced Lighting Control Program)**

- Advanced Lighting control Systems
- Lighting Control Strategies
- Line/Low Voltage Switching Controls
- Dimming Controls
- Occupancy Sensors
- Photosensors

**CALCTP Acceptance Testing**

- Electric Vehicle Infrastructure Training Program (EVITP)

**BUSINESS SKILLS**

- Teambuilding Skills
- Green Awareness Training and Green Certifications
- Leadership Skills
- Customer Service Skills
- Conflict Resolution
- Problem Solving
- Decision Making Skills
- Inventory Checklist
- Advanced Time Management
- Filling Out Work Documents and Reports Accurately
- Project Management
- Creating Project Bids

**COMPUTER SKILLS**

- Auto Computer-Aided Design (AutoCAD)
- Job Tracking System
- Scheduling & Planning Jobs

**OSHA 10/30 (OSHA Certified Instructor)**

- OSHA 10 (requires completion of 10 hours)
- OSHA 30 (requires completion of 30 hours)

**Apprentice Training****Class/Lab Hours**

8-200

Trainees will receive any of the following

**COMMERCIAL SKILLS****2<sup>nd</sup> Year Curriculum**

- AC Systems
- AC Theory
- Blueprints
- Code and Practices
- Codeology
- Electrical Safety related work practices
- Test Instruments
- Transformers

- Estimating

### **3<sup>rd</sup> Year Curriculum**

- Code and Practices
- Fire Alarm Systems
- Grounding and Bonding
- Rigging, Hoisting, and Signaling
- AC Theory
- Blueprint Reading
- Electrical Safety
- OSHA
- NFPA 70E

### **4<sup>th</sup> Year Curriculum**

- Code and Practices
- Motor Controls
- Motors
- Code Calculations
- Electrical Systems
- Grounding and Bonding
- Test Instruments

### **5<sup>th</sup> Year Curriculum**

- Rigging
- Torque
- Motor Control
- Code Calculations
- Pipe Bending
- Estimating
- Exam Prep
- Blueprint Reading

### **For All Years Curriculum**

#### CALCTP (California Advanced Lighting Control Program)

- Advanced Lighting control Systems
- Lighting Control Strategies
- Line/Low Voltage Switching Controls
- Dimming Controls
- Occupancy Sensors
- Photosensors

#### CALCTP Acceptance Testing

- Electric Vehicle Infrastructure Training Program (EVITP)
- Supervising Skills

**OSHA 10/30 (OSHA Certified Instructor (All Apprentice Years))**

- OSHA 10 (requires completion of 10 hours)
- OSHA 30 (requires completion of 30 hours)

Note: Reimbursement for retraining in Job Number 1 is capped at 200 total training hours per trainee, regardless of the method of delivery. Reimbursement for retraining in Job Numbers 2 - 4 is capped at 210 total training hours per trainee.