



Retrainee – Job Creation

Training Proposal for:

L-3 Communications Electron Technologies, Inc.

Agreement Number: ET16-0275

Panel Meeting of: December 4, 2015

ETP Regional Office: North Hollywood

Analyst: M. Webb

PROJECT PROFILE

Contract Attributes:	Retrainee Priority Rate Job Creation Initiative	Industry Sector(s):	Manufacturing Priority Industry: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Counties Served:	Los Angeles	Repeat Contractor:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Union(s):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Electronic and Space Technicians, Local 1553		
Number of Employees in:	CA: 5,000	U.S.: 36,000	Worldwide: 45,000
<u>Turnover Rate:</u>	11%		
<u>Managers/Supervisors:</u> (% of total trainees)	9%		

FUNDING DETAIL

Program Costs	-	(Substantial Contribution)	(High Earner Reduction)	=	Total ETP Funding
\$741,000		\$0	\$0		\$741,000

In-Kind Contribution:	100% of Total ETP Funding Required	\$1,365,000
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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 Priority Rate	Business Skills, Computer Skills, Cont. Imp., Mfg. Skills, Advanced Tech.	375	8-200	0	\$1,656	\$18.00
				Weighted Avg: 92			
2	Retrainee Job Creation Initiative Priority Rate	Business Skills, Computer Skills, Cont. Imp., Mfg. Skills, Advanced Tech.	50	8-200	0	\$2,400	\$18.00
				Weighted Avg: 120			

Minimum Wage by County: Job Number 1: \$15.97 per hour for Los Angeles County.

Job Number 2 (Job Creation): \$13.31 per hour for Los Angeles County.

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

Although employer provides health benefits, they are not being used to meet Post-Retention Wage.

Wage Range by Occupation		
Occupation Titles	Wage Range	Estimated # of Trainees
Job Number 1		
Production Staff		200
Administration Staff		29
Engineer I		70
Engineer II		30
Manager/Supervisor		40
IT Staff		6
Job Number 2 (Job Creation)		
Production Staff		35
Engineer		10
Administration Staff		5

INTRODUCTION

L-3 Communications Electron Technologies, Inc. (ETI or the Company) designs, manufactures and tests electronic products used in communication satellites. ETI is best known for its top

performing traveling wave tubes (TWTs), electronic power conditioners, and fully integrated traveling wave tube amplifiers (TWTA). Its parent company, L-3 Communications Corporation, is headquartered in New York and has 22 California locations. This will be the first ETP Agreement for L-3 Communications ETI's Torrance facility. The prior project was for training at the Narda West division in Folsom. [Note: 428 employees work in Torrance as compared to 160 in Folsom.]

With its traditional product lines, ETI has delivered more than 4,700 space TWTs and 2,100 TWTA's to customers worldwide. The Company's space-qualified products range from L-band to V-band with output powers from .5 to more than 250 watts. In non-space markets, ETI has delivered over 20,000 TWTs and is recognized as the leader in supplying high power coupled cavity TWTs over the frequency range from C-band to Q-band, and millimeter-wave helix TWTs for SATCOM radar and instrumentation applications. All modern designs incorporate this unparalleled experience ensuring high reliability, and optimized performance in harsh environments.

In the space market, ETI serves both government and commercial segments. For other markets, ETI provides products critical to the airborne and surface radar, military and commercial communications and instrumentation segments. More recently, ETI has extended its industry-leading capabilities into the electric propulsion arena by being the exclusive supplier of xenon ion thrusters and power supplies for all Boeing 702 spacecraft and a major player in NASA's Deep Space programs including Deep Space One.

For more than 45 years, ETI has been considered a leading supplier to the space and defense industry (government and commercial). Products manufactured for other industries include high power TWTs of various frequency bands, and millimeter-wave helix TWTS that are used for SATCOM radar and instrumentation applications.

Retrainee - Job Creation

The Panel offers incentives to companies that commit to hiring new employees. Newly-hired employees will be reimbursed at a higher rate and trainees will be subject to a lower post-retention wage.

ETI has committed to hiring 50 new employees (Job Number 2). The date-of-hire for trainees in the Job Creation program will be within the three-month period before contract approval or within the term-of-contract. These trainees will be hired into "net new jobs" as a condition of contract.

To remain competitive, ETI continues to explore opportunities of expansion through acquisitions, consolidations, and other internal partnerships. In preparation, ETI plans to add two product lines. This will require additional staffing. Those newly hired will require training to introduce them to L-3 products, processes and operational standards.

PROJECT DETAILS

In the past, communication satellites were mostly used in defense technology. Currently, 85% of the satellite market is comprised of commercial sales, with an increasing number of international customers. Unfortunately, the number of ETI satellites launched in 2015 decreased due to competitors based outside the US. ETI's training plan will increase competitiveness through diversification, continuous improvement and changes to the business model. ETI will invest in its staff to improve employee skill sets, increase production efficiencies, reduce cycle times, and introduce staff to advanced technologies.

Curriculum topics focus on improving customer relationships and employee capabilities to problem solve, and implement leaner manufacturing processes. Staff will learn new processes (Equipment Operation) to reduce turn around times, without impacting product quality. Training in Negotiation and Problem Solving Skills will be offered for new techniques and methods in marketing. Trainees will learn to communicate effectively with a larger customer base. Other topics provided include Product Knowledge, Process Improvements, Export Controls, Rework Instructions and Sourcing Strategies.

ETI has purchased a \$3 million dollar ERP/MRP System (Infor LN) that will be installed January 2016. Trainees will receive computer training on modules to ensure staff can utilize new computer systems and software programs to execute job duties efficiently. Advanced Technology training will also be delivered to ETI Engineers to learn new updates to 3-D software programs. All courses included in this project will increase ETI competitiveness and efficiency, as well as improve staff capabilities to develop, manufacture and deliver products to its customers.

Training Plan

Class/lab training will be delivered by in-house experts in the following:

Business Skills (10%): Training will be offered to all occupations to improve employee negotiation and development skills. Training delivered will prepare staff to increase sales overseas and overall skill set.

Computer Skills (10%): Training will be offered to Managers/Supervisors, Administration Staff, Engineers and Production Staff. Trainees will receive training in Intermediate/Advanced Microsoft Office to increase employee skill sets and effectiveness when utilizing computer software programs.

Manufacturing Skills (20%): Training will be offered to Production Staff to improve quality production and increase customer satisfaction. Training to be delivered will increase employee knowledge in welding, coatings, and assembly.

Continuous Improvement (50%): Training will be offered to all occupations to provide employees problem solving skills. Process improvement skills such as Lean Manufacturing, Six Sigma, and ISO 9001 (2015) are essential to gain new clientele.

Advanced Technology (10%): A total of 60 Engineers and IT Staff will receive approximately 90 hours of training on specialized computer systems (Advanced Technology). Training courses to be provided will include the following: Introduction to Pro/Engineer Creo, Confluence/Jira, Altium 3D PWBs, WindChill PDMLink, 3D-Printer Hardware/Software, Thruster Physics, XPC Design Fundamental and TWTA Fundamentals.

To increase competitiveness, it is imperative that Engineers/IT Staff improve job skills to improve ETI research and development efforts and sustain engineering and system advancements.

The trainer-to-trainee ratio is 1:10 for AT, to allow in-depth coverage and personal attention from the instructor.

Commitment to Training

ETI spends approximately \$728,000 annually in training at their Torrance facility. Training includes leadership development, quality training, human resources, ethics and operational training. Training is company-wide and job specific.

ETP funds will not displace the 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

ETI has dedicated HR staff members to oversee the daily collection of ETP training rosters. Managers/Supervisors will receive training to ensure they are aware of ETP record keeping requirements. The Company has also hired a third party administrator, California Training Coalition (CalTraining) to assist with administration of this ETP project. CalTraining will perform all data entry and provide daily consulting on all aspects of ETP program administration. Training under this Agreement will be delivered by in-house instructors.

RECOMMENDATION

Staff recommends approval of this proposal.

PRIOR PROJECTS

The following table summarizes performance by L-3 Communications (Folsom) under an ETP Agreement that was completed within the last five years:

Agreement No.	Location (City)	Term	Approved Amount	Payment Earned \$ %
ET12-0345	Folsom	03/26/12- 03/25/14	\$349,848	\$208,140 (59%)

The primary reason the L-3 Division in Folsom was unable to achieve its full funding amount was due to an unexpected and significant change in leadership at that location during the ETP contract period. This created a delay in training delivery.

DEVELOPMENT SERVICES

CalTraining in Upland assisted with development of this proposal for a flat fee of \$21,500.

ADMINISTRATIVE SERVICES

CalTraining will also perform administrative services for a fee not to exceed 13% of payment earned.

TRAINING VENDORS

N/A

Exhibit B: Menu Curriculum

Class/Lab Hours

8-200

Trainees may receive any of the following:

BUSINESS SKILLS

- ETI Business Acumen & Processes:
 - Protecting Proprietary Information
 - Basic & Advanced Blueprint Reading
 - Technical Writing
 - Documentation Development
 - Organic Growth
 - Business Capture
 - Doing Business Overseas
 - Strategic Seller Seminar
 - Key Account Management/CRM
 - FAR training
 - Business Acumen
 - Solution Selling
 - Product Substitution
 - Anti-Corruption
 - Conflicts of Interest
 - Export Controls (ITAR)
 - Material Review Activities
 - PM Boot Camp
 - Project Management
 - Purchase Order Management
 - Proposal Management
 - Planning and Organizing
 - ETI Product Knowledge
 - Price Analysis Training
 - Requests for Quote
 - Rework Instructions
 - Router/Rework Router Inputs & Review
 - Single/Sole Source Justification
 - Sourcing Strategies
 - Terms & Conditions/Flow Downs
 - Understanding Bills of Materials
 - Understanding Capacity Requirements Planning
 - Engineering Print Reading
 - Geometric Dimensional Tolerancing
 - Dimensional Tolerancing for Tooling
 - Introduction of Electric Propulsion
 - Paperless Manufacturing
 - Design Center Request system
 - FAR Basics
 - Forecasting
 - Fundamentals of Purchasing
 - Intro to Categorizing Purchase and Supplies
 - Intro to Value Added Opportunities in the Sourcing Process
 - Managing and Improving Supplier Performance

- Master Scheduling Foundations
- Program Management College
- Earned Value Management
- Production Planning

COMPUTER SKILLS

- **ETI Software:**
 - Propricer
 - Contract Insight Design Training
 - Altium/Meridian Software
- **ETI Enterprise Resource Planning Software:**
 - Infor LN
 - Oracle
 - Infor/Bahn
 - Managing with MRP
- **MS Office (Intermediate/Advanced):**
 - Project
 - Publisher
 - Visio
 - Advanced Word/Excel

CONTINUOUS IMPROVEMENT

- **ETI Leadership Skills:**
 - Performance and Talent Management
 - Financial Acumen
 - Supervisory, Leadership and Influence Skills
 - Negotiation
- **ETI Operational Excellence:**
 - Root Cause and Corrective Action
 - Root Cause Analysis & FRBs
 - Problem Solving - 5 Whys
 - Corrective Action Review Board
 - Preventative Corrective Actions
 - Process Improvements
 - Lean Manufacturing Improvements
 - Six Sigma Training
 - ISO 9001 Revision 2015
 - Internal Auditing
 - Quality Management Review
 - Statistical Process Control
 - Cathode Committee
 - Quality Summit Projects
 - BD Summit Projects
 - Engineering Summit Projects
 - EDD Harmonization
 - Program Reviews

- Focus Meeting
- Project 300
- Material Review Board Cert.
- Product Knowledge
- CMM Operations

MANUFACTURING SKILLS

- **ETI Safety:**
 - FOD Control
 - Electrical Safety
- **ETI Test Skills:**
 - Test Readiness Review
 - Prohibited Material Testing
 - Equipment Calibration
 - 1st RF/Age
 - 2nd RF/Mid-Test
 - 60Kv CPE Modulators
 - Bench Thermal/H-C Screen
 - Burn-In
 - Collector Supply, DC Console
 - DC Console
 - EMI/EMC Testing
 - EPC Thermal Test
 - Fill Out and Maintain ROL's
 - Final Functional Bench Testing
 - Fowler/Ion Argon
 - Glassman Supply
 - HAC Modulators
 - Heater Testing
 - Hi Potter
 - HVM Test
 - Integration Test
 - Old Burn In
 - Orifice Testing
 - Participate in TRI process
 - Pre Age
 - Quick Turn-On Test
 - Repair Old Equipment
 - RS/RE
 - Run ATE Tests
 - Schematic/Test Expertise
 - Select In Test
 - Solenoid Supply, Patriot
 - Thermal Vacuum Chamber Set-Up
 - Thermal Vacuum Data Monitoring
 - Thermal Vacuum Unit Install
 - Thermal Vacuum Testing
 - Thruster Integration Testing
 - Troubleshoot Test Problems
 - TWTA ATE Station Set-Up

- TWTA ATE Testing
- Vibration Set-Up
- Vibration Unit Install
- Vibration Testing
- Thruster ATP Test
- XPC Module Test
- XPC Control Unit Test
- XPC Integration Test
- LabView Training
- Automated Test Equipment Training
- ETI Manufacturing Processes:
 - AutoCAD: Tooling/Drawing Expertise
 - Operator and Tester Training
 - Potting Molds, Chambers & Technique
 - Electrical Static Discharge
 - Space Crimp
 - Resistance Spot Welding
 - Laser Welding
 - GTAW Welding
 - Controlled Work Area
 - Electronic Assembly Solder Certification
 - Coating Certification per MPI/MPS 6-47
 - Compressed Gases
 - Connector Mate/De-Mate
 - 01327 Material Review Activity
 - 01523 Personal Protective Equipment Training
 - 01794 Gen Elec Solder Inspection Cert
 - 01803 Space Crimp Certification
 - 01833 Resistance Spot Welding Cert
 - 01867 Laser Welding Cert
 - 01868 GTAW Welding Cert
 - 02023 Borescope Training
 - 02217 Chromate Conversion Coating
 - 01847 RF Conn./Waveguide Mate/De-Mate Training
 - Aggregate Operations Planning
 - APICS Basics of Supply Chain Management
 - APICS Certified Supply Chain Professional
 - APICS Detailed Scheduling and Planning
 - APICS Master Planning of Resources
 - APICS Strategic Management of Operations
 - Basics of Material Requirements Planning
 - Best Value Determination
 - Capacity Planning and Management
 - Change Board Knowledge
 - CPSM: EX 1 - Review Course Foundation of Supply Mgmt
 - Demand Management
 - Documentation Requirements
 - EMI
 - MES User
 - Assemble High Complex Modules
 - Assemble High Complex PWB Assys
 - Assembly of High Voltage Module

- Barrel Assembly
- Basing - Conduction
- Basing - Radiation
- Black Epoxy
- Black Silicone Adhesive
- Bonding 6-38
- Bonding 6-58
- Chemical Use
- Circuit Bundle
- Circuit Extraction
- Circuit Shrink Assembly
- Circuit Window Assembly
- Clean Prior to Ship
- Collector Assembly
- Connector Installation
- Copper Removal Process
- Crimping
- Degrease
- Endcap
- EPC Assembly
- EPC Cover
- EPC Foldup
- Fabrication of New Equipment
- Fasteners
- Fin Installation
- Final Circuit Assembly
- Final Gridded Gun Assembly
- Final Gun Assembly
- Final Vacuum Assembly
- Furnace MPI ALL
- Gray Overcoat
- Grids ALL
- Grit Blast
- GTAW
- Gun Body Assembly
- Heater Assembly
- Helix Assembly
- High Resistance and Inspection
- Hi-Vac
- Impregnation and Chem Etch Process
- Inner Gridded Gun Assembly
- Inner Gun Assembly
- Install Covers
- Laser Weld
- Lead Prep
- Lead Soldering
- Leak Check
- Lower Level Sub-Assemblies
- Magnet Stack
- Magnetics Breakout Process
- Magnetics Core and Bracketing
- Magnetics Endwall Encapsulation
- Magnetics Heat Strap Bonding

- Magnetics Scotchcast Potting
- M-Coat Process
- Measurement Tools
- Mo-Ni Process
- Mo-Ru Braze Process
- Mo-Ru-N Braze Process
- Operations II A/T
- Packing and Potting Process
- Painting
- Part Cleaning Process
- Pinch Off
- Potting
- Pre and Post Cover Cleaning
- Pre-Cover Inspection
- Power Curve Operation
- R.F. Braze
- Radiators
- Red Stake
- Resistance and Inspection
- Resistance Spot Weld
- Rod Assembly
- SEM Photo
- Silver Epoxy
- SMT Assembly
- Sputter Coat
- Standard Repairs
- Straighten 1792H TWT
- Subassembly
- Thruster Assembly
- Thruster Install
- Thruster Removal
- Tube Prep
- TWT Integrate
- TWT Prep
- Vacuum Subs
- Waveguide - Subassemblies
- Waveguide Installation Ku, K
- Waveguide Installation X
- Welding Process
- Wet Lab Chemical Mix, Etch, Clean
- Wetstack
- Windows, Subs & Finals
- Window Sub Assembly

AT Hours

8-200

Advanced Technology (ratio 1:10)

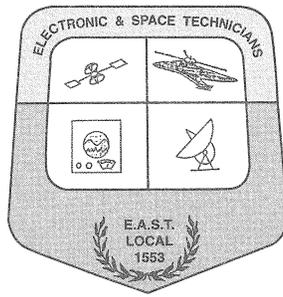
- Creo (Pro-E)
- Introduction to Pro/E
- Confluence/Jira
- LabView/CCATE
- Altium 3D PWBs

- WindChill PDMLink
- 3D Printer Hardware/Software
- Power Conversion Fundamentals
- Digital Circuits and Devices
- Circuit Modeling & Worst-Case Analysis
- High Density Circuit Board Technology
- Product Design & Development
- Thruster Physics
- XPC Design Fundamental
- TWTA Fundamentals
- Modeling Workshops
- AI/OIB/Router Construction
- M&P MPS/MPI Expertise
- Production/Process Design Expertise

Safety Training is capped at 10% of a trainee's total training hours

Note: Reimbursement for retraining is capped at 200 total training hours per trainee, regardless of the method of delivery.

ELECTRONIC AND SPACE TECHNICIANS



LOCAL 1553

Affiliated with U.B. of C. and J. of A.
GENERAL OFFICE
13144 Prairie Avenue
Hawthorne, California 90250-5399
(310) 219-3800
FAX (310) 219-3818



June 29, 2015

Employment Training Panel Members
1100 J Street, 4th Floor
Sacramento, CA 95814

Subject: L-3 Communication proposal

Dear Panel Members,

Electronic and Space Technicians local 1553 represents all production, maintenance, and shop clerical employees at the L-3 Communications Electron Technologies, INC. facility in Torrance, California.

It is our understanding that L-3 Communications is applying for ETP training reimbursement funds in order to improve the efficiency, skills, and competitiveness of the organization and it's employees, including the bargaining unit employees we represent. Please be advised that we support the application. We view this training program as a step towards ensuring the continued viability and competitiveness of the L-3 ETI facility, as well as improving the marketability of our members.

Sincerely,

Kevin Dodd
Senior Business Representative
EAST local 1553