



**Training Proposal for:
Raytheon Company
Agreement Number: ET10-0272**

Panel Meeting of: **October 23, 2009**

ETP Regional Office: **North Hollywood** Analyst: M. Reeves

PROJECT PROFILE

Contract Type: Priority/Retrainee Industry Sector(s): Manufacturing

Counties Served: Los Angeles, Orange, San Diego, Santa Barbara Repeat Contractor: Yes No

Union(s): Yes No Priority Industry: Yes No
Electronic and Space Technicians, Local 1553

No. Employees in CA: 14,500 No. Employees Worldwide: 72,000

Turnover Rate	Manager/Supervisor
6%	10%

FUNDING DETAIL

Program Costs	Substantial Contribution	Total ETP Funding	In-Kind Contribution
\$849,420	\$350,838	\$498,582	\$900,000

TRAINING PLAN TABLE

Job No.	Job Description (by Contract Type)	Type of Training	Estimated No. of Trainees	Range of Hours		Average Cost per Trainee	Post-Retention Wage
				Class / Lab	CBT		
1	Priority/Retrainee	Business Skills, Computer Skills, Continuous Improvement, Hazardous Materials, Manufacturing Skills	534	24 - 200	0	\$657	\$14.18
				Weighted Avg: 73			
2	Priority/Retrainee	Business Skills, Computer Skills, Continuous Improvement, Hazardous Materials, Manufacturing Skills	216	24 - 200	0	\$684	\$13.00
				Weighted Avg: 38			

Minimum Wage by County: \$14.18 for Los Angeles and Orange counties; \$13.48 for San Diego County; and \$13.00 for Santa Barbara 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

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

Wage Range by Occupation	
Occupation Title	Wage Range
Program and Project Manager	
Engineer and Technician	
Operations/Manufacturing Worker	
Administrative Program Support Staff	
Manager and Supervisor	

INTRODUCTION

In this proposal, Raytheon Company (Raytheon) seeks funding for retraining as outlined below:

Raytheon, founded in 1922, develops and manufactures defense and commercial electronics for uses in government, space, information technology, technical services, business, aviation, and special mission aircraft. The company qualifies for standard retraining as a manufacturer facing out-of-state competition under Title 22, California Code of Regulations, Section 4416(i)(1). This proposal will be funded at the priority industry reimbursement rate.

Raytheon is headquartered in Waltham, Massachusetts and employs approximately 72,000 full-time workers worldwide, including 14,500 in California. Raytheon is guided by a strategy of leadership in four key strategic business areas: 1) Missile Defense; 2) Intelligence, Surveillance and Reconnaissance; 3) Precision Engagement; and 4) Homeland Security. Raytheon has capabilities for discovering, monitoring, processing, and disseminating tactical information. The company's Precision Engagement technologies range from surveillance systems to integrated weapons systems. For Homeland Security, Raytheon has far-reaching experience in developing systems and services necessary for detection, protection, and response.

Raytheon proposes to retrain its workforce in the skills necessary to improve the company's systems integration capabilities and become a high performance workplace. The company has provided a letter of support from the Electronics and Space Technicians, Local 1553, which represents the production and maintenance trainees included in this proposal.

PROJECT DETAILS

This project will include California employees from four distinct business divisions: Space and Airborne Systems (SAS); Integrated Defense Systems (IDS); Network Centric Systems (NCS); and Raytheon Technical Services Company LLC (RTSC). According to company representatives, Raytheon intends to utilize approximately 70% of ETP funding from this proposed project to provide training at its SAS division in El Segundo, under Job Number 1.

Raytheon's SAS division produces sensor systems that give military forces accurate and timely intelligence for the network-centric battlefield. Raytheon's representatives report that the U.S. military is relying more heavily on battleground technology. Further, the military plans to use Lean Principles to run its operations more efficiently. Military vendors, such as Raytheon, will also be required to operate in this new Lean culture by providing innovative products under tighter budget constraints, with reduced cycle time and waste.

To meet the challenges of market-driven changes, Raytheon is creating new systems for intelligence, unmanned vehicle control, on/off-board sensors, information security, surveillance, and reconnaissance. Company representatives report that Raytheon has invested millions of dollars in new technology and equipment at its 46 California facilities over the past five years. The company's training goals are defined by each division and its respective mission; however, Raytheon's broader objective is to take the company's Six Sigma training to the next level by further engaging its frontline employees in Lean Principles. It is imperative that Raytheon provide its customers with mission assurance to ensure that products work 100% of the time. Therefore, the company must upgrade the skills of its workers to deliver the industry's most technologically advanced products and services.

The training outlined in this proposal will focus primarily on the implementation of Lean Principles and the effective use of multiple enterprise software applications to improve quality and labor efficiencies. Training will take place at the company's California sites in El Segundo, Van Nuys, Fullerton, San Diego, Chula Vista, and Goleta.

Business Skills training will provide Engineers and Technicians with the ability to effectively communicate and apply their technical expertise within their respective business divisions. Trainees will learn product marketing, technical writing, presentation skills, and project management.

Computer Skills training on enterprise software applications will teach all occupations how to evaluate and report process performance and trends, particularly with respect to Lean

implementations. Managers and Process Owners will learn to apply Microsoft Project to track process improvement projects. Training on other computer systems that are integral to Raytheon's processes such as Wildfire Design, Modeling and Simulation, and Engineering Design will be provided to Engineers. Program Managers and Engineers will also receive Matlab training for performing and documenting technical calculations. All trainees will be provided training in standard computer skills at the company's expense.

Continuous Improvement training will teach trainees how to initiate process review and improvement activities, solve problems effectively, and perform as leaders of change. All occupations will receive training in Lean concepts for mission assurance. Management staff and Engineers will be trained in technologies and design processes that will minimize errors and project rejections.

Manufacturing Skills and Hazardous Materials training will be provided to Operations and Manufacturing personnel in the areas of new and modified production processes, tools, and machinery. This training will provide much needed cross-training to the company's manufacturing workforce. Course topics will include Airborne Radar, Space Hardware, Systems Engineering Processes, Geometric Dimensioning and Tolerances, Radio Frequency, and Test Engineering Processes. Trainees will also be trained in Hazardous Materials Management.

Substantial Contribution

Raytheon is a repeat contractor with payment earned in excess of \$250,000, and had a former Substantial Contribution at the El Segundo facility within the past five years. (See Prior Projects Table.) Accordingly, reimbursement for trainees at the El Segundo facility in Job Number 1 will be reduced by 50% to reflect the company's \$350,838 Substantial Contribution to the cost of training. Job Number 2, for training at the other facilities, will not be reduced. The Panel's September 25, 2009 action requires that applicants be assessed the maximum Substantial Contribution.

Commitment to Training

Raytheon representatives state that ETP funds will not displace the company's existing financial commitment to training. While Raytheon does not have a training budget to capture all training expenses for its workforce, the company estimates over \$7 million in annual loaded training costs for its California employees in 2008. Raytheon provides new employee orientation, safety training, basic computer skills training, state-mandated training, and basic technical skills training as needed.

ETP training under prior Agreements has involved many of the same worksites and similar course material. Trainees that participated in prior Agreements will receive training from an updated curriculum that has been revised to meet the changing needs of Raytheon's customers and business partners. In addition, a new population of recently acquired employees will receive training for the first time. ETP-funded training will allow the company to continue the process of knowledge transfer from retirement-bound employees to more recently hired workers.

ETP assistance enables Raytheon to provide structured training that increases effectiveness, knowledge retention, and skills advancement. The company's business leaders are committed to advancing the new training initiatives outlined in this proposal and will provide ongoing resources to promote skills development in critical areas.

RECOMMENDATION

For the reasons set forth above, staff recommends approval of this proposal.

PRIOR PROJECTS

The following table summarizes performance by the company under ETP Agreements that were completed within the last five years:

Agreement No.	Location (City)	Term	Approved Amount	Payment Earned
*ET08-0158	El Segundo	07/30/07 – 07/29/09	\$1,804,000	TBD
ET05-0320	El Segundo	05/10/05 – 05/09/07	\$1,424,030	\$1,176,588 (83%)
**ET03-0387	El Segundo	06/30/03 – 06/29/05	\$2,269,165	\$746,545 (33%)

***ET08-0158** - All training under this Agreement was completed by April 29, 2009 and this contract ended on July 29, 2009. However, due to company delays in gathering and processing of final training records, ETP has given the Contactor until October 29, 2009 to complete the final closeout of this Agreement. Current contract statistics indicate that 1,372 trainees completed training and retention. Raytheon's representatives report that the company expects to earn approximately \$800,000 by the time this Agreement is officially closed out. The Contactor reports that the economic downturn resulted in training budget cuts which precluded a significant number of trainees from completing the minimum required 24 hours of training.

****ET03-0387** – Final performance in this Agreement reached 33%. Raytheon staff reported that several factors contributed to the low performance in this Agreement: (1) There were difficulties coordinating training at several training sites and the bulk of training did not begin until February 2004. (2) At the beginning of 2004, the company determined the number of projected training hours per trainee was too excessive. Both classes and enrollments were curtailed while an Amendment was being processed. (3) Suppliers were not readily available to participate in training, which decreased the number of trainees going through the program. (4) Staff was unable to secure subagreements for some of the training vendors.

DEVELOPMENT SERVICES

The company retained California Manufacturers & Technology Association in Sacramento to assist with development of this proposal for a flat fee of \$10,000.

ADMINISTRATIVE SERVICES

To Be Determined

TRAINING VENDORS

To Be Determined

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

24 – 200

Trainees may receive any of the following:

BUSINESS SKILLS

- Effective Contract Writing and Review
- Technical Writing
- Contract Fundamentals
- Customer-Focused Marketing
- Data-Driven Decision-Making
- Supply Change Management
- Export Controls
- Financial Management
- Negotiation Skills
- Presentation Skills

COMPUTER SKILLS

- Clear Case Overview (Windows)
- Engineering Design
- Access Modules
- Microsoft Project
- Enterprise Applications
- Software Development Tools and Methodologies
- Intermediate to Advanced Microsoft Office
- MINI TAB (Statistical Software)
- Electrostatic Discharge Computer Course
- Engineering Design
- MATLAB Fundamentals and Programming Techniques
- Microsoft Office Standard Edition 2003 Collection (Intermediate to Advanced)
- Modeling, Simulation, and Animation Techniques
- Program Management/Tracking
- Project Management/Tracking
- Software Language Training
- VM 4.0 Local Site Expert
- VM 4.0 Operator
- VM.4.0(Advanced Programming
- Wildfire Design Training (Prisim)

CONTINUOUS IMPROVEMENT

- Raytheon Six Sigma
- Lean Processes
- Front Line Leadership - Engineering Essentials
- Front Line Leadership - Leadership Essentials
- Front Line Leadership - Management Essentials
- Compatibility Maturity Models and Processes
- Competency Models and Evaluation Methods

- Components of Earned Value Management
- DFX Design for Production Life Cycle
- Factory Floor Quality Control Training
- ISO Quality Standards
- Knowledge Management/Transfer
- Product Development Process
- Product Lifecycle Processes and Management
- Variance Analysis Reporting
- Quality Professional Standards, Tools, and Methods
- Raytheon Supplier Engagement Methods
- Risk Management Tools and Methodologies
- Software Development Processes
- Robust Design Defect Reduction in Product Development

HAZARDOUS MATERIALS

- Emergency Medical Training
- Hazard Communication Standard
- Hazardous Materials Management
- HazMat Handling and Disposal Training
- Rapid Response
- Cryogenic Fluids Handling

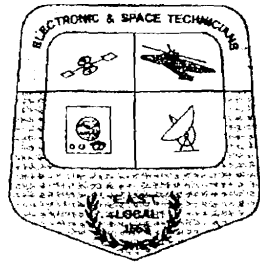
MANUFACTURING SKILLS

- Sensor Designs Pace Cryocooler
- Airborne Radar Introduction
- Data Management
- Effective Requirements Definition, Capture, and Flow-Down
- Electrostatic Discharge Training and Certification
- Electrical Engineering Processes, Tools, and Methods
- Space Craft Connector
- Fracas Training
- Engineering in the Integrated Supply Chain Environment
- Fundamentals of Scheduling
- Geometric Dimensioning and Tolerances
- Hardware Engineering Processes, Tools, and Methods
- Impact of Critical Thinking
- Optics Lab Protocol
- Laser Operations
- Hyper Lynx Signal Integrity
- Integrated Supply Training
- Lab View Basics
- Integrated Master Planning and Master Scheduling Principals of Systems Engineering
- Fastener Basics
- MATLAB Control Design Acceleration
- Modeling and Simulation
- Optics for Non-Optikers
- Principles of Integrated Product Team Leadership (PIPTL)

- Principles of Radar
- Principles of Systems Engineering - PoSE
- R6s Practitioner Track: Integrated Supply Chain
- Radar Systems
- Raytheon Six Sigma Specialist Training
- SAS Build History Record Common Process
- Soldering Certification
- Space and Airborne Systems (SAS) Space Hardware
- Systems Engineering Processes, Tools, and Methods
- Systems Engineering Technical Development Program
- Test Engineering Processes, Tools, and Methods
- Transition to Production
- UCLA System Engineering Experiential Program

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

ELECTRONIC AND SPACE TECHNICIANS



LOCAL 1553

Affiliated with U.B. of C. and J. of A.

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October 15, 2009

Dolores Kendrick
State of California
Employment Training Panel
North Hollywood Regional Office
4640 Lankershim Blvd., Suite 311
North Hollywood, CA 91602

Re: Raytheon Application for Training Funds
Contract No. 090932, commencing October, 2009

Dear Ms. Kendrick:

EAST, Local 1553 represents certain hourly production and maintenance employees employed by Raytheon Company at its facilities in El Segundo and other locations in the Southern California area. EAST hereby expresses its support of Raytheon's application for Employment Training Panel funding to support the Company's training programs.

Sincerely,

Kevin Dodd
President