



## RETRAINEE - JOB CREATION

**Training Proposal for:**

**The Boeing Company**

**Agreement Number: ET15-0381**

**Panel Meeting of:** January 22, 2015

**ETP Regional Office:** North Hollywood

**Analyst:** M. Reeves

### PROJECT PROFILE

Contract Attributes:	Critical Proposal Retrainee Job Creation Initiative Priority Rate	Industry Sector(s):	Manufacturing Aerospace and Defense  Priority Industry: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Counties Served:	Los Angeles and Orange	Repeat Contractor:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Union(s):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Number of Employees in:	CA: 18,431	U.S.:152,406	Worldwide: 169,018
<u>Turnover Rate:</u>	1%		
<u>Managers/Supervisors:</u> (% of total trainees)	18%		

### FUNDING DETAIL

Program Costs	-	(Substantial Contribution)	(High Earner Reduction)	=	<b>Total ETP Funding</b>
\$747,676		\$0	\$0		\$747,676

<b>In-Kind Contribution:</b>	100% of Total ETP Funding Required	\$1,682,522
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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	Adv. Technology, Commercial Skills	168	8-200	0-44	\$1,872	\$18.75
				Weighted Avg: 104			
2	Retrainee Job Creation Initiative Priority Rate	Adv. Technology, Commercial Skills	179	8-200	0-44	\$2,420	\$18.75
				Weighted Avg: 121			

**Minimum Wage by County:** Job Number 1: \$15.97 per hour for Los Angeles County and \$16.02 per hour for Orange County. Job Number 2 (Job Creation): \$13.31 per hour for Los Angeles County and \$13.35 per hour for Orange 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
<b>Job Number 1</b>		
Design Engineer 1		12
Design Engineer 2		15
Design Engineer 3		15
Design Engineer 4		13
Design Engineer 5		12
Structural Analysis Engineer 1		15
Structural Analysis Engineer 2		21
Structural Analysis Engineer 3		25
Structural Analysis Engineer 4		25
Structural Analysis Engineer 5		15
<b>Job Number 2</b>		
Design Engineer 1		25
Design Engineer 2		30
Design Engineer 3		29
Design Engineer 4		23

Design Engineer 5		20
Structural Analysis Engineer 1		7
Structural Analysis Engineer 1		7
Structural Analysis Engineer 1		5
Structural Analysis Engineer 1		5
Structural Analysis Engineer 1		4
Systems Engineer 1		6
Systems Engineer 2		5
Systems Engineer 3		5
Systems Engineer 4		4
Systems Engineer 5		4

### **Critical Proposal**

This project has been designated a Critical Proposal by the Governor's Office of Business and Economic Development based on Boeing's plan to expand its business capacity in California by adding several hundred new high-skilled, high-wage engineering jobs in 2015.

### **INTRODUCTION**

The Boeing Company (Boeing) ([www.boeing.com](http://www.boeing.com)) is a manufacturer of commercial jetliners and military aircraft. Boeing also designs and manufactures defense systems, satellites, and launch vehicles. The Company's customers include most domestic and international airline carriers, NASA, and all branches of the military.

In May 2013, Boeing established engineering design centers in South Carolina, Southern California, and the state of Washington. The proposed training will be provided to employees at both the Long Beach and Seal Beach locations of Boeing's Southern California Design Center (SoCal). SoCal consists of the Commercial Aviation Services, which includes Customer Support Engineering, Modifications and Freighter Conversions, Fleet Services, Production Airplane Programs, and Core Engineering activities.

SoCal is currently providing support for the 707, 717, 727, 757, DC-8, DC-9, DC-10, MD-11, MD-80 and MD-90 products. In addition, there are plans in place for SoCal to support the Next Generation 737, 747, 767, and 777 models, as well as commercial product support for the KC-46 Tanker and P-8. This additional customer support work is expected to transition from the state of Washington to California by the end of 2015. This customer support growth requires innovative tools and processes to support these airplanes, requiring extensive training for incumbent workers and newly hired employees.

Boeing anticipates strong growth in commercial aviation over the next several years and is scaling up its internal capability and capacity to meet the expected rise in demand for commercial airplanes and related service. The SoCal expansion allows Boeing to streamline processes and develop common practices by establishing a single location for airplane support.

## **PROJECT DETAILS**

Boeing is undergoing extensive relocation of work (Modification, Customer Service, and Design) from the state of Washington into California, specifically Boeing 7-series products to centralize its key business functions. Without this production being moved to California, many incumbent workers in Washington, including those from the declining Boeing Defense Systems and C-17 businesses, would be facing layoffs over the next several years. The Company will be relocating several employees while many others will be offered positions at other Company facilities.

### **Retrainee - Job Creation**

To support this relocation of work, the Company recently completed the refurbishment of facilities at its Seal Beach location to accommodate a new, state-of-the-art Boeing Operations Center (BOC). The BOC will provide services for both heritage McDonnell Douglas airplanes and the newly added Boeing 7-series. The Boeing 7-series products require technology skills (processes, computer-aided design, and other tools) not used in heritage MD aircrafts.

To staff this new facility, Boeing has committed to hiring and training 179 new employees (Job Number 2). These new employees will be trained alongside relocated employees. They will require extensive training in order to develop the requisite skills to facilitate the Company's expansion. In the future, Boeing plans to hire 600 new engineers by June 2015, another 400 by December 2015, and an additional 300 are forecasted for 2016 to fill positions at the BOC.

Training for newly hired employees will be reimbursed at a higher rate and trainees must be hired within the three-month period prior to Panel approval or during the term of contract. The date-of-hire for all trainees in the Job Creation program will be within the three-month period before contract approval or within the term-of-contract. Trainees will be hired into "net new jobs" as a condition of contract.

### **Training Plan**

The proposed training will provide engineers with the tools, processes, and software to perform their jobs with the relative independence needed to sufficiently support the work at SoCal. Training will be delivered by in-house subject matter experts.

**Advanced Technology** (92%) – Training will be offered to all Engineers. The Company indicates that the training necessary to perform the new work supporting heritage MD and Boeing 7-series airplanes involves advanced technologies often requiring a college degree in the field of science, technology, engineering, or mathematics.

Boeing reports that the individuals scheduled to receive AT training are workers who possess degrees in an accredited (Accreditation Board for Engineering and Technology) course of study in engineering, computer science, mathematics, physics, or chemistry. However, many of the new advanced analysis and design skills needed to work specifically on the Boeing 7-series models are not taught in universities and are not currently among the skill set of the incumbent workers targeted for training. Consequently, the proposed training will serve as an essential supplement to the education and experience of the Company's new-hire and incumbent engineering staff.

This costly and complex class/lab training will involve the use of certified training personnel, expensive training material, high-end equipment, and in some cases, the development or enhancement of intricate courseware. To ensure focused instruction and attention, this training will adhere to a trainer-to-trainee ratio not exceeding 1:10.

**Commercial Skills (8%)** – Training will be offered primarily to newly hired Systems Engineers. These courses will be delivered utilizing Computer-Based Training (CBT). These CBT modules will include Principles of Flight, Designing an Airplane, Airplane Structures and Systems, and Airplane Certification.

### **Commitment to Training**

Boeing will continue to allocate considerable resources to its training programs and indicates that ETP funds will not displace the existing financial commitment to training. The Company provides many training opportunities through its Learning, Training and Development (LTD) services organization. Ongoing training consists of new employee orientation, technical skills development, and soft skills enhancement through team building and leadership training. Safety training is, and will continue to be, provided in accordance with all pertinent requirements under state and federal law.

ETP funding will help the Company balance its sizable commitment to Engineering staff and assist Boeing in relocating work statements and bringing jobs to California.

#### ➤ Training Infrastructure

Training will commence immediately upon approval of this Agreement. The Boeing LTD is an established service that provides standardization, enrollment, training, and tracking services. The Company has identified specific members of its Engineering Operations Staff to ensure that training administration and documentation adheres to ETP requirements.

### **LMS**

Boeing will use its Learning Management System to document training. Staff has reviewed and approved the system.

### **RECOMMENDATION**

Staff recommends approval of this proposal.

### **DEVELOPMENT SERVICES**

N/A

### **ADMINISTRATIVE SERVICES**

N/A

### **TRAINING VENDORS**

N/A

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

8 – 200 Trainees may receive any of the following:

**ADVANCED TECHNOLOGY**

- + Product Engineering Process & Application
- + Basic Geometry and EBOM (Engineering Bill of Material)
- + ENOVIA V5 Essentials
- + CATIA V5/ENOVIA LCA Product Design Workshop
- + Prod Data Def Workshop for V4-V5 Program
- + CATIA V5 Foundations for Aerospace Designers
- + PLM1032 Selection of Structural Analysis Methods
- + SEU0017 Freebody Diagrams for Aerospace Structures
- + SEU0016 Load Paths for Aircraft Structures
- + BCS (Boeing Communication System) Training 101
- + Airline Technical Operations and Fleet Management
- + Propulsion Airplane 101
- + FAA Standardization Seminar
- + Structures Technical Knowledge
- + Detailed FAR Part 25 for Structures
- + ARit Training: FAA Regulations, Policy and Guidance: Structures
- + Structures Appendix I: Delegation and Retention
- + Structures Means of Compliance (MOC)
- + Electrical Design Technical Training
- + Electrical Design Wire Flammability Training
- + Developing FMEA (Failure Modes and Effects Analysis)
- + Introduction to Fault Tree Analysis
- + Using Maintenance Tasks in System Safety Assessments

**CBT Hours**

0 - 44

**COMMERCIAL SKILLS**

- + Aviation Safety 101 [0.3 hours]
- + Airplane Certification: Compliance with Airworthiness Regulations [0.2 hours]
- + TR012896 Aircraft Familiarization Overview [8 hours]
- + Airline Support Manager Training [2 hours]
- + Airplanes 101 - Module 1: Principles of Flight [1 hour]
- + Airplanes 101 - Module 2: Airplane Requirements [1 hour]
- + Airplanes 101 - Module 3: Designing an Airplane [1 hour]
- + Airplanes 101 - Module 4: Airplane Structures [1 hour]
- + Airplanes 101 - Module 5: Airplanes Systems [1 hour]
- + Airplanes 101 - Module 6: Aviation Safety [1 hour]
- + Airplanes 101 - Module 7: Airplane Flight Test [1 hour]
- + Airplanes 101 - Module 8: Production and Delivery System [1 hour]
- + EASA (European Aviation Safety Agency) CS25 Delegation Training [1.5 hours]
- + EASA Post Type Validation Guidelines [2 hours]
- + Major/Minor Training for New DAEs (Class 2 Struct) [0.5 hours]

- ✚ Regulatory Administration Guidance and BPM Knowledge [1 hour]
- ✚ AR (Authorized Representative) Authority [1 hour]
- ✚ Major Minor Process [3 hours]
- ✚ Test Witnessing [0.5 hours]
- ✚ Conformity [0.5 hours]
- ✚ Notification of Authorized Representative Travel to Other Countries to perform ODA (Organization Designation Authorization) functions [0.5 hours]
- ✚ Compliance Summary Report Guidelines [1 hour]
- ✚ Undue Pressure & ODA Unit Member Independence [0.5 hours]
- ✚ CP101 – Process Overview: Certification Plans [0.5 hours]
- ✚ CP204 – Certification Plan Process Roles: Authorized Representative [0.5 hours]
- ✚ CP310 – Certification Plan: Method of Compliance (MOC) Discussion [1 hour]
- ✚ CP314 – Certification Plan: Technical Specialist Review [0.5 hours]
- ✚ RFC (Request for Conformity) System Training WSSO (Web Single Sign On) Login [0.5 hours]
- ✚ RFC System Training for Drafter & Submitter Roles [1 hour]
- ✚ Airplane Certification: Introduction to Airplane Certification [0.2 hours]
- ✚ Airplane Certification: Roles and Responsibilities [0.2 hours]
- ✚ Airplane Certification: Project Management and Planning [0.2 hours]
- ✚ Airplane Certification: Certification Requirements [0.2 hours]
- ✚ Airplane Certification: Major/Minor Determination Process [0.2 hours]
- ✚ Airplane Certification: Certification Plans [0.2 hours]
- ✚ Airplane Certification: Compliance with Airworthiness Regulations [0.2 hours]
- ✚ Airplane Certification: Regulatory Issues Management (RIM) [0.2 hours]
- ✚ Airplane Certification: Foreign Validation [0.2 hours]
- ✚ Airplane Certification: European Aviation Safety Agency [1 hour]
- ✚ Detailed FAR Part 25 for Structures [1 hour]
- ✚ Regulatory Knowledge - 14 CFR Part 21, 25, & 183 [1 hour]
- ✚ TR009659 Electrical Design Means of Compliance [2 hours]
- ✚ TR009654 Electrical Design Major/Minor Criteria Training [2 hours]

Note: Reimbursement for retraining is capped at 200 total hours per trainee, regardless of method of delivery. CBT is capped at 50% of total training hours, per trainee.