DELEGATION ORDER

STATE OF CALIFORNIA
ETP
EMPLOYMENT TRAINING PANEL

Training Proposal for:

MSC Software Corporation

Agreement Number: ET16-0195

Approval Date: September 23, 2015

ETP Regional Office: San Diego **Analyst:** S. Godin

PROJECT PROFILE

Contract Attributes:	Priority Rate	Industry Sector(s):	Technology/IT Priority Industry: ☒ Yes ☐ No
Counties Served:	Orange, Los Angeles, Santa Clara	Repeat Contractor:	☒ Yes ☐ No
Union(s):	☐ Yes ☒ No		

Number of Employees in:	CA: 200	U.S.:325	Worldwide: 1,150
Turnover Rate:	2%		
Managers/Supervisors: (% of total trainees)	13%		

FUNDING DETAIL

Program Costs	-	(Substantial Contribution)	(High Earner Reduction)	=	**Total ETP Funding**
$50,400		$0	$0		$50,400

In-Kind Contribution:	100% of Total ETP Funding Required	$98,532

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	Advanced Tech, Business Skills, Computer Skills, Continuous Impr	80	8-200	0-100	$630	$15.97
				Weighted Avg: 35			

Minimum Wage by County: Los Angeles: $15.97; Orange: $16.02; Santa Clara: $16.44;
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
Corporate Support Staff		5
Engineering/Technical Staff		30
Senior Engineering/Technical Staff		25
Sales & Marketing Staff		10
Supervisor/Manager		10

INTRODUCTION

Formed in 1963, MSC Software Corporation (MSC) (www.mscsoftware.com) is a computer systems design services company that creates specialized virtual prototype software used by customers in almost every facet of manufacturing to complement or replace the physical prototype "build and test" process that has traditionally been used in product design and engineering. Using a virtual rather than a physical prototype saves time and reduces costs. MSC has pioneered many of the technologies that are now relied on in numerous industries to analyze and predict stress and strain, vibration & dynamics, acoustics, and thermal analysis in many products. These technologies are used by customers in many industries including aerospace and defense; transportation and shipbuilding; electronics; biomedical and medical devices; and multiple fuel and energy systems.

MSC is headquartered in Newport Beach and maintains two branch offices in Sunnyvale and Glendale; all three of which are the subject of this proposal.

PROJECT DETAILS

This will MSC's fourth ETP Agreement, second in the last 5 years. In its previous Agreement (ET13-0339), 41 trainees received Class/Lab training in a combination of Advanced Technology (AT), Business, Computer, and Continuous Improvement topics. The majority of the training

was delivered in AT topics which provided frontline workers with the skills to solidify a new enterprise-level application framework infrastructure. Training also enabled MSC to implement a new and advanced Agile-software-development-technology delivery service used in Cloud-based services and server, database, desktop, and mobile protocols.

The training in this proposal will build on the previous Agreement's training. Training will not be duplicated. The latest technology advancements will be taught throughout the organization to increase efficacy in delivering products to customers in a timely fashion. Using next generation Computer-Aided Engineering technologies, the Company will be better able to develop software that accurately and reliably predict how products behave in the real world to help engineers design more innovative products. For this proposal, the Company will use both Class/Lab and E-Learning to deliver training.

Training Plan

Business Skills (10%): Training will be provided to all occupations as it relates to individual job function. Training will improve the ability of the workforce to provide exemplary service to both internal and external customers and better manage business processes while implementing new software and technologies.

Computer Skills (15%): Training will be offered to all occupations based on individual need and job function. Training will provide the skills necessary to improve efficiencies and competently manage the Company's systems and software.

Continuous Improvement (15%): Training will be delivered to all occupations. Training is designed to improve processes and efficiencies throughout the organization. Trainees will obtain the skills to work efficiently, manage competently, and think strategically.

Advanced Technology (60%):

The proposed Advanced Technology (AT) training is customized and highly technical in nature and includes software programming and development skills. The industry is dictated by changing technologies and software platforms, new programming, and new systems including Cloud Computing, Agile, Python Platform, Open MP Programming, and OpenCL Programming. AT training is critical to help employees stay up-to-date with technology.

The AT training will be delivered to MSC's Engineering/Technical Staff. Training will be delivered by outside subject matter experts or specialized in-house trainers. AT training costs range from $41 to $275 per hour, per trainee. The trainer-to-trainee ratio will not exceed 1:10 to allow in-depth coverage and personal attention from the instructor.

Computer-Based Training (CBT)

MSC will offer up to 100 hours in CBT to its Engineering/Technical Staff and selected Managers/Supervisors. CBT training will provide a method to reinforce the training taught through the class/lab methodologies. CBT hours are capped at 50% of total training hours per individual trainee.

Commitment to Training

MSC's annual 2015 training budget in California is approximately $50,000. The Company provides anti-harassment, diversity, basic computer skills, new employee orientation, performance appraisal training and interviewing skills. MSC states that 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

MSC plans on beginning training soon after project approval. Training will be delivered by a combination of in-house experts and outside training vendors yet to be determined.

The Company has identified a dedicated staff member to manage the ETP project. This person will oversee scheduling, training delivery and documentation. In addition, MSC will be assisted by an administrative subcontractor.

Impact/Outcome

Training will cover new technologies, new products, and business and continuous improvement skills needed to manage growth and provide long term career opportunities for employees.

RECOMMENDATION

Staff recommends approval of this proposal.

PRIOR PROJECTS

The following table summarizes performance by MSC Corporation under an ETP Agreement that was completed within the last five years:

Agreement No.	Location (City)	Term	Approved Amount	Payment Earned $ %
ET13-0339	Newport Beach	04/05/2013-04/04/2015	$61,880	$45,194 (73%)

DEVELOPMENT SERVICES

MSC retained Training Funding Partners (TFP) in Fountain Valley to assist with development of this proposal for a flat fee of $3,900.

ADMINISTRATIVE SERVICES

MSC also retained TFP to perform administrative services in connection with this proposal for a fee not to exceed 13% of payment earned.

TRAINING VENDORS

To Be Determined

Exhibit B: Menu Curriculum

Class/Lab
8-200

Trainees may receive any of the following:

BUSINESS SKILLS
- o Advanced Communication Skills
- o Customer Facing Skills
- o Cross Functional Collaboration Skills
- o Data Archiving/Record Retention Skills
- o Finance/Accounting Skills
- o Negotiation Skills
- o Presentation Skills
- o Pricing/Packaging Technology and Trends
- o Time Management Skills

COMPUTER SKILLS
- o CPQ (Configure, Price, Quote) System Skills
- o Graphic Design Skills
- o InDesign Skills
- o JIRA (project and issue tracking software)
- o Oracle
- o Perforce Software
- o Photoshop Skills
- o Salesforce.com
- o SharePoint Skills
- o Web Development Skills

CONTINUOUS IMPROVEMENT
- o Conflict Resolution Skills
- o Decision Making Skills
- o Global Leadership Skills
- o Process Improvement Skills
- o Project Management Skills
- o Root Cause Analysis
- o Strategic Planning Skills

AT Hours
0-200

ADVANCED TECHNOLOGY
- o .Net UI (User Interface)
- o Agile/Agile Project Management with SCRUM
- o Altair PBS (Portable Batch System) Professional
- o Build Automation
- o CA Siteminder Authentication
- o Cloud Computing
- o Engineering/Modeling Software Skills
- o Data Visualization Technologies
- o Graphics Technologies
- o High Performance Computing (HPC) Technologies
- o IBM Platform LSF (Load Sharing Facility)
- o Meshing Technologies

- Microsoft.Net
- Microsoft Silverlight
- Mobile Application Development
- NetBeans Rich Client Platform
- Oracle
- Programming Skills
  - Apache Tomcat and Apache TomEE Programming
  - C++ Programming
  - C# Programming
  - CUDA Programming
  - Fortran Programming
  - HDF5
  - Java Programming
  - MPI Programming
  - Open MP Programming
  - OpenCL Programming
  - OpenGL Programming
  - PERL Programming
  - PostgressSQL
  - Python Programming
  - Shell Programming
  - UML Programming
- Release Engineering
- Software Development Methods
- Tomcat
- UI Technologies
- UX Technologies
- XAML
- XML

CBT Hours
0 – 100

COMPUTER SKILLS

- Adams/Solver Theory: Achieving Robust, Converged Solutions (16 hours)
- Advanced Contact Analysis Using MSC Nastran and Patran (with Contact Tables or Contact Pairs) (8 hours)
- Advanced Durability and Fatigue Life Analysis Using MSC Fatigue (16 hours)
- Advanced Dynamic Analysis Using MSC Nastran (16 hours)
- Advanced Geometry, Meshing, Customization and Variable LBCs Using Patran (32 hours)
- Advanced Linear Analysis Using MSC Nastran (8 hours)
- Advanced Modeling Elements and Techniques with Adams/Solver (8 hours)
- Advanced Nonlinear Analysis Using Marc and Mentat (24 hours)
- Advanced Nonlinear Analysis Using Marc and Patran (24 hours)
- Advanced Parametrics, Design Sensitivity and Optimization (16 hours)
- Advanced Substructure Analysis Using MSC Nastran - Secondary Superelements (8 hours)
- Aeroelasticity Using MSC Nastran (24 hours)
- Automating Tasks and Basic GUI Customization Using the Patran Programming Command Language (PCL) (40 hours)

- Automating Tasks Using Adams/View Scripting, Macros and GUI Customization (16 hours)
- Basic Durability and Fatigue Life Analysis Using MSC Fatigue (16 hours)
- Basic Dynamic Analysis Using MSC Nastran and Patran (40 hours)
- Basic Nonlinear Analysis Using Marc and Mentat (24 hours)
- Basic Nonlinear Analysis Using Marc and Patran (32 hours)
- Basic Substructure Analysis Using MSC Nastran - Primary Superelements (16 hours)
- Basic Suspension and Full Vehicle Analysis Using Adams/Chassis (8 hours)
- Complete Mulitbody Dynamics Analysis with Adams (40 hours)
- Composite Laminate Modeling Using Patran (16 hours)
- Composite Material Analysis Using MSC Nastran (24 hours)
- Contact Analysis Using MSC Nastran and Patran (with Contact Tables or Contact Pairs) (16 hours)
- Control System Integration with Adams Using MATLAB or Easy 5 (16 hours)
- Design of Experiments (DOE) and Stochastics (Monte Carlo) Analysis Using Adams (8 hours)
- Design Sensitivity and Optimization Using MSC Nastran (24 hours)
- Dynamic Analysis Using MSC Nastran (24 hours)
- Dynamic System Modeling and Simulation Using Easy 5 (16 hours)
- Explicit Nonlinear Analysis (SOL700) Using MSC Nastran and Patran (24 hours)
- Flex Body Dynamics and Modal Stress Recovery Using Adams (24 hours)
- Fluid Structure Analysis Using MSC Nastran (24 hours)
- Formulae SAE Applications Using Adams/Car (8 hours)
- Frequency Domain Analysis Using Adams/Vibration (8 hours)
- Fundamentals of Multibody Dynamics Analysis with Adams (16 hours)
- Gear, Belt and Chain Modeling with Adams/Machinery (8 hours)
- Implicit Nonlinear Analysis Using MSC Nastran (SOL 600) (24 hours)
- Implicit Nonlinear Analysis Using MSC Nastran and Patran (24 hours)
- Introduction to Patran (40 hours)
- Linear Static Analysis Using MSC Nastran and Patran (40 hours)
- Linear Statics and Normal Modes Analysis Using MSC Nastran (24 hours)
- Modeling and Simulation of Fluid Power Systems Using Easy 5 (16 hours)
- Modeling and Simulation of Gas Systems Using Easy 5 (16 hours)
- Modeling and Simulation of Multi-Phase Fluids Using Easy 5 (16 hours)
- Rotodynamic Analysis Using MSC Nastran (16 hours)
- Thermal Analysis Using MSC Nastran (24 hours)
- Thermal Analysis Using MSC Nastran (SOLs 153 and 159) (32 hours)
- Vehicle Modeling and Simulation Using Adams/Car (32 hours)
- Vehicle Modeling and Simulation Using Adams/Driveline (8 hours)
- Working with Custom MSC Nastran Solution Sequences Using DMAP (24 hours)
- Writing User Subroutines in Adams/Solver (8 hours)

Safety Training is limited to 10% of total training hours per-trainee.

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