



**Critical Proposal
Training Proposal for:
Applied Materials, Inc.
Agreement Number: ET15-0306**

Panel Meeting of: November 14, 2014

ETP Regional Office: San Francisco Bay Area

Analyst: L. Lai

PROJECT PROFILE

Contract Attributes:	Critical Proposal Job Creation Initiative Priority Rate	Industry Sector(s):	Green Technology Manufacturing Nanotechnology Priority Industry: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Counties Served:	Santa Clara	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: 3,381	U.S.: 8,394	Worldwide: 14,500
<u>Turnover Rate:</u>	9%		
<u>Managers/Supervisors:</u> (% of total trainees)	6%		

FUNDING DETAIL

Program Costs	-	(Substantial Contribution)	(High Earner Reduction)	=	Total ETP Funding
\$498,000		\$0	\$0		\$498,000

In-Kind Contribution:	100% of Total ETP Funding Required	\$933,750
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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 Job Creation Initiative	Adv. Technology, Business Skills, Computer Skills, Continuous Impr.	415	8-200	0-40	\$1,200	\$20.25
				Weighted Avg: 60			

Minimum Wage by County: \$13.55 for Job Creation (Santa Clara 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
Technician		65
Engineer		300
IT Staff		25
Manager		25

CRITICAL PROPOSAL

This proposal has been designated as a “Critical Proposal” by the Governor’s Office of Business and Economic Development also known as GO-Biz. In this proposal, Applied Materials seeks ETP funding to train 415 new employees.

INTRODUCTION

Founded in 1967 and based in Santa Clara, Applied Materials, Inc. (Applied) builds equipment, machines, and tools using nano-technology (the production of ultra-small structures). Customers include manufacturers of semiconductor wafers and chips (Intel), flat panel displays (Samsung), solar photovoltaic cells and modules (Yingli), and lithium-ion cell batteries (Panasonic). The Company’s extensive portfolio of clean energy fabrication technologies has made it the leading supplier of clean energy manufacturing systems worldwide.

PROJECT DETAILS

In the prior ETP Agreement, Applied trained its employees on product innovations and manufacturing solutions for the green/clean energy industry. For this training proposal, the Company is continuing its green/clean energy technology training in advanced semiconductor technologies and Lithium Ion (Li-Ion) battery manufacturing. Company representatives state that rapid growth of consumer demand for mobile devices, including smart phones, tablets and portable PCs is currently driving the electronics and semiconductor industries.

The Semiconductor Industry Association forecasts global semiconductor sales growth at 3.3% in 2015. Alongside this market growth, the industry continues to witness a high rate of change in technology, with the emergence of new techniques and architectures such as three-dimensional transistors, advanced patterning lithography, and semiconductors with critical dimensions at 28 nanometers and below.

Last year the Company invested over \$1 billion for product development and engineering programs to quickly develop new products and technologies before the emergence of strong demand, thus allowing customers to incorporate these products into their manufacturing plans at an early stage in the technology selection cycle.

Retrainee - Job Creation

In support of job creation, the Panel is offering incentives to companies that commit to hiring new employees. Under the Retrainee-Job Creation program, training for newly-hired employees will be reimbursed at a higher rate and trainees will be subject to a lower post-retention wage. As a feature of this program, Substantial Contribution requirement and Turnover Rate penalty are not assessed.

In this proposal, Applied has committed to hiring 415 new employees (Job Number 1). The Company represents that 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. The Company also represents that these trainees will be hired into “net new jobs” as a condition of contract.

This aggressive job creation plan is part of Applied's long-term strategic initiative to grow its business in California and will help meet the Governor's targets for job growth in the State. Applied will be investing in two new facilities in Santa Clara. 1) a class 1 mini fab pilot test factory and 2) a Li-Ion Battery R&D facility for developing tools for manufacture. Company representatives state that depending on market conditions in the next year, Applied will likely exceed the goal of 415 newly hired trainees by the end-of-term date.

Training Plan

Classroom/Laboratory training will be conducted by a combination of highly skilled internal subject matter experts and external industry experts. Applied will also provide Computer-Based Training to its frontline workers as a pre-requisite in preparation for class/lab training or as a follow up to ensure proper learning/skills transfer. CBT is capped at 50% of the total training hours per trainee.

Business Skills (25%) – Training will be offered to all occupations in technical writing, project management, marketing communications, finance, and effective oral and written presentations. The goal is to equip the workforce with an understanding of the Company's products and improve communication with internal and external customers.

Computer skills (25%) - Training will be offered to all occupations to increase productivity and improve proficiency in various software platforms and applications. Topics will include desktop applications, Computer-Aided Design (CAD) software, programming languages, project management software applications, and manufacturing control systems.

Continuous Improvement (25%) – Training will be offered to all occupations. Courses include decision making, corrective and preventative actions, management controls, process validations and complaint management systems. Training will improve the Company's service, quality,

reliability, delivery time, and order accuracy by providing a common language and a consistent methodology for how its employees meet customer requirements.

Advanced Technology (25%)

Training will include courses for engineers in multi-part system modeling, materials sciences, machine troubleshooting, fabrication modeling/integration practice and theory. Advanced technology training will be delivered through exceedingly technical and customized courses in manufacturing architecture, systems engineering, software design and support systems, and product quality/reliability.

Training is intended to foster a high level of innovation and product development, which will fuel the next generation of nano-manufacturing and clean technology. Courses will be taught by a combination of external vendors and highly compensated and highly skilled engineers and scientists at an estimated cost of over \$16,600 per day of training. The trainer-to-trainee will be limited to 1:10 to allow in-depth coverage and personal attention from the instructor.

Training Infrastructure and LMS

The Company utilizes a Learning Management System (LMS) to document all training. The LMS has been reviewed and approved by ETP staff for documentation purposes. Applied will designate a staff person to be the main ETP project contact. The Company will also be using an administrative subcontractor to assist with project administration.

Out-of-State Training

Applied is requesting approval to provide up to 10% of the training at a division of its equipment group in Austin, Texas, which is within current Panel policy for this type of delivery. Training groups and manufacturing sites are often co-located to ensure training material is kept current with the latest products being built in a customer's factory. For this reason, the Company wants to train a portion of its California-based employees (Engineers) at facilities located near customer sites. Applied will meet the out-of-state training requirements as shown below:

- Technical skills training will be customized, specialized, and not available in California.
- Applied will defray all employee travel costs and associated expenses.
- Only full-time, California-based employees who work as front-line technical staff will be eligible for out-of-state delivery.
- Applied will document out-of-state training attendance through its approved LMS.

Commitment to Training

Applied representatives report that the Company's statewide training expenditures in California for non-ETP related training last year is in excess of \$3,000,000. Past training include OSHA and FDA-mandated safety regulations; sexual harassment prevention; basic job skills; desktop training in Microsoft Word, Excel, and PowerPoint; and executive development training programs.

Applied represents 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.

RECOMMENDATION

Staff recommends approval of this proposal.

ACTIVE PROJECTS

The following table summarizes performance by Applied under an active ETP Agreement:

Agreement No.	Approved Amount	Term	No. Trainees (Estimated)	No. Completed Training	No. Retained
ET13-0323	\$1,320,000	03/04/13 – 03/03/15	800	1,965	505

Company reported that all training was completed by the end of August 2014, six months in advance of the term end date. Class/Lab Tracking shows enough training hours for 100% reimbursement. Final invoices will be submitted upon completion of the 90-day retention period in early December 2014.

Job Number 1 needs 60,000 hours for 100%, 86,419 hours have been entered for trainees who meet minimum hours for reimbursement.

Job Number 2 needs 4,000 hours for 100%, 11,289 hours have been entered for trainees who meet minimum hours for reimbursement.

Job Number 3 needs 8,000 hours for 100%, 10,352 hours have been entered for trainees who meet minimum hours for reimbursement.

PRIOR PROJECTS

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

Agreement No.	Location (City)	Term	Approved Amount	Payment Earned \$ %
ET10-0710	Santa Clara	06/28/10 – 03/31/12	\$411,642	\$411,642 (100%)

DEVELOPMENT SERVICES

Herrera & Company in Stockton assisted with development of this proposal at no cost.

ADMINISTRATIVE SERVICES

Herrera & Company will also perform administrative services in connection with this proposal for an amount not to exceed 13% of payment earned.

TRAINING VENDORS

To Be Determined

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

8-200

Trainees may receive any of the following:

ADVANCED TECHNOLOGY

- 3D surface optical interferometer
- Advanced programming development applications
- Application engineering services
- Compound semiconductor manufacturing
- Factory automation tools and techniques
- Instrument modeling/integration software development
- Lithography modeling
- Measurement lithography practice and theory
- Measurement sciences practice and theory
- MEMS (Micro-Electromechanically Systems)
- Multi-part machine automation development
- Multi-scale modeling for nonmaterial design
- Optical profile metrology systems
- Photolithography, microlithography and optical lithography
- System data modeling and architecture
- Wafer and reticle manufacturing

BUSINESS SKILLS

- Customer communications and awareness
- Finance and accounting skills
- Marketing/promoting
- Product knowledge and market validation
- Project management
- Strategic sales negotiation techniques
- Technical presentations

COMPUTER SKILLS

- Computer-aided design and manufacturing
- Data storage and access management systems
- Management and manufacturing control systems
- Materials and logistics software development
- Operating system programming language
- Programming languages
- Project management software tools

CONTINUOUS IMPROVEMENT

- Effective teams
- Facilitation skills and mentorship
- Leadership/coaching skills
- Problem solving tools and techniques
- Process improvement training
- Product life-cycle development
- Quality fundamentals/core skills

CBT Hours

0-40

BUSINESS SKILLS

- Customer communications and awareness (2 hr.)
- Finance and accounting skills (2 hr.)
- Marketing/promotion (2 hr.)
- Sales and negotiation skills (2 hr.)

COMPUTER SKILLS

- Customer relationship management systems (2 hr.)
- Management and manufacturing control systems (4 hr.)
- Single-vendor enterprise resources planning (2 hr.)

CONTINUOUS IMPROVEMENT

- Business excellence and finance (2 hr.)
- Effective teams (4 hr.)
- Leadership and coaching (2 hr.)
- Manufacturing procedures and protocols (2 hr.)
- Manufacturing quality and reliability (4 hr.)
- Problem solving tools and techniques (4 hr.)
- Process and capability mapping (2 hr.)
- Production system procedure review (2 hr.)
- Quality management systems procedures (2 hr.)

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