Training Proposal for:

TSI Semiconductors America LLC

Contract Number: ET19-0408

Panel Meeting of: February 22, 2019

ETP Regional Office: Sacramento

Analyst: K. Mam

PROJECT PROFILE

<table>
<thead>
<tr>
<th>Contract Attributes:</th>
<th>Priority Rate Retraine</th>
<th>Industry Sector(s):</th>
<th>Manufacturing (E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counties Served:</td>
<td>Placer</td>
<td>Repeat Contractor:</td>
<td>Yes No</td>
</tr>
<tr>
<td>Union(s):</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Employees in:</td>
<td>CA: 500 U.S.: 500 Worldwide: 500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turnover Rate:</td>
<td>11%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managers/Supervisors: (% of total trainees)</td>
<td>7%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FUNDING DETAIL

<table>
<thead>
<tr>
<th>In-Kind Contribution: (100% of Total ETP Funding Required)</th>
<th>Total ETP Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>$212,800</td>
<td>$114,400</td>
</tr>
</tbody>
</table>
TRAINING PLAN TABLE

<table>
<thead>
<tr>
<th>Job No.</th>
<th>Job Description</th>
<th>Type of Training</th>
<th>Estimated No. of Trainees</th>
<th>Range of Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Retrainees Priority Rate</td>
<td>Cont. Imp., HazMat, Mfg. Skills, PL-Mfg. Skills</td>
<td>275</td>
<td>8-200 0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Class / Lab</th>
<th>CBT</th>
<th>Weighted Avg:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Average Cost per Trainee</th>
<th>Post-Retention Wage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$416</td>
<td>$17.70</td>
</tr>
</tbody>
</table>

Minimum Wage by County: $17.70 per hour for Placer 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

Up to $2.50 per hour may be used to meet the Post-Retention Wage.

<table>
<thead>
<tr>
<th>Wage Range by Occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupation Titles</td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>Operator</td>
</tr>
<tr>
<td>Technician</td>
</tr>
<tr>
<td>Engineer</td>
</tr>
<tr>
<td>Administrative Staff</td>
</tr>
<tr>
<td>Supervisor/Manager</td>
</tr>
</tbody>
</table>

INTRODUCTION

Founded in 2011 and headquartered in Roseville, TSI Semiconductors America LLC (TSI) (www.tsisemi.com/) manufactures high quality semiconductor components (computer chips) and provides contract wafer fabrication services for technology development companies, automotive manufacturers/suppliers and aerospace/defense companies. Training under this proposal will be for its Roseville location. This is TSI's second ETP Contract, and the first in the past five years.

Veterans Program

The Company does not actively recruit Veterans, but is an Affirmative Action employer and posts positions on Work for Warriors.

PROJECT DETAILS

To remain competitive, TSI has implemented a training initiative, 100% Proficiency, which requires employees to be trained companywide. Training will focus on continuous improvement to improve production processes and efficiencies. Training will provide employees the skills to advance themselves and the Company’s business.
TSI has invested over $1.5M in new process equipment tools such as wet and dry etching tools, diffusion tools and chemical vapor deposition tools. The Company is continuously introducing new tools, products and services. Employees will be trained on new manufacturing processes and new machine maintenance.

Training Plan

Training will be delivered via Classroom/Laboratory and Productive Lab (PL) in the following:

**Continuous Improvement**: Training will be offered to all occupations and focus on improving efficiencies and quality, lowering costs, and eliminating errors. Training topics include 100% Proficiency, Project Management and Electrical/Electronic Device Failure Analysis.

**Hazardous Materials**: Training will be offered to all occupations and focus on Chemical Handling.

**Manufacturing Skills**: Training will be offered to Operators and focus on equipment operation and cross-training. Training topics include Mechatronics, Equipment Fault Detection and Diagnosis, Metrology Equipment Operation, Calibration and Adjustment.

**Productive Laboratory**

Trainees may produce goods for profit as part of the PL-Manufacturing Skills training in the courses identified under the Curriculum. The instructor will be dedicated to training delivery during all hours of training.

TSI will train Operators, Engineers and Technicians on manufacturing equipment operations. Since factory equipment cannot be reproduced in a classroom setting, PL training is necessary to ensure safety and production standards are being met. Training will be provided at a much slower pace than regular production, with significantly higher defects occurring as trainees gain proficiency. A subject matter expert will conduct training. The trainer will demonstrate how to use the equipment, then supervise trainees’ use of the equipment. A department supervisor will certify trainee competency once training is completed.

Training will be under constant supervision with up to a 1:3 trainer-to-trainee ratio because trainees typically work in groups of three when assigned to a machine. PL training is approximately 60 hours per trainee.

**Commitment to Training**

The Company invests over $306,000 annually for training and includes new hire orientation, sexual harassment prevention and safety training. 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**

TSI has a detailed training plan in place. The Senior HR Manager will oversee project administration. The Production Operations Manager, Senior HR Manager, and a Training Coordinator will coordinate all training efforts. Training will be delivered by internal experts and vendors when necessary.

**RECOMMENDATION**

Staff recommends approval of this proposal.
DEVELOPMENT SERVICES

N/A

ADMINISTRATIVE SERVICES

N/A

TRAINING VENDORS

To Be Determined
Exhibit B: Menu Curriculum

Class/Lab Hours
8-200

Trainees may receive any of the following:

CONTINUOUS IMPROVEMENT
- 100% Proficiency
  - Creating Check Sheets
  - Learning How To Learn
  - Procedure Writing
  - Trainer Skills
  - Train-The-Trainer

Electrical/Electronic Device Failure Analysis
Leadership Skills
Project Management

HAZARDOUS MATERIALS
- Chemical Handling

MANUFACTURING SKILLS
- Basic Educational Skills Training (B.E.S.T. Program)
  - Electronics
  - Mechanics
  - Pneumatics
  - Hydraulics
- Mechatronics
- Metrology Equipment Operation, Calibration, and Adjustment
- Semiconductor Manufacturing Equipment
  - Fault Detection and Diagnosis
  - Operation
  - Preventative Maintenance
  - Repair
- Technology Development/Device
  - Experimentation and Simulation
- Use of Specialty Hand Tools
  - Chemical Vapor Desposition
  - Diffusion
  - Dry Etch
  - Wet Etch

Safety Training cannot exceed 10% of total training hours per-trainee (This cap does not apply to Hazmat, OSHA 10/30 or HAZWOPER)

Productive Lab Hours
0-60

MANUFACTURING SKILLS (Ratio 1:3)
- Basic Educational Skills Training (B.E.S.T. Program)
  - Electronics
  - Mechanics
  - Pneumatics
  - Hydraulics
- Mechatronics
- Metrology Equipment Operation, Calibration, and Adjustment
- Semiconductor Manufacturing Equipment
  - Fault Detection and Diagnosis
  - Operation
  - Preventative Maintenance
  - Repair
- Technology Development/Device
  - Experimentation and Simulation
- Use of Specialty Hand Tools
  - Chemical Vapor Desposition
  - Diffusion
  - Dry Etch
  - Wet Etch

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