Critical Proposal
Retrainee – Job Creation
Training Proposal for:

Northrop Grumman Systems Corporation

Agreement Number: ET17-0400

Panel Meeting of: February 23, 2017

ETP Regional Office: North Hollywood

Analyst: M. Reeves

PROJECT PROFILE

<table>
<thead>
<tr>
<th>Contract Attributes:</th>
<th>Critical Proposal</th>
<th>Retrainee</th>
<th>Job Creation Initiative</th>
<th>Veterans</th>
<th>Priority Rate</th>
<th>IWD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry Sector(s):</td>
<td>Manufacturing</td>
<td>Aerospace and Defense</td>
<td>Priority Industry: ☑ Yes ☐ No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Counties Served:</td>
<td>Kern, Los Angeles, San Diego, Santa Barbara, Santa Clara, Sonoma, Ventura</td>
<td>Repeat Contractor: ☑ Yes ☐ No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Union(s):</td>
<td>☑ Yes ☐ No</td>
<td></td>
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</tr>
</tbody>
</table>

Number of Employees in: CA: 29,390 U.S.: 60,000 Worldwide: 65,000

Turnover Rate: 7%

Managers/Supervisors: (% of total trainees) 9%

FUNDING DETAIL

Program Costs - (Substantial Contribution) - (High Earner Reduction) = Total ETP Funding

$862,728 - $0 - $0 = $862,728

In-Kind Contribution: 100% of Total ETP Funding Required $1,600,000
## 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>
<th>Average Cost per Trainee</th>
<th>Post-Retention Wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Retrainees</td>
<td>Business Skills, Computer Skills, Continuous Imp., Hazardous Mat., Mfg. Skills, Advanced Tech., PL-Mfg Skills</td>
<td>1,400</td>
<td>8-200 0</td>
<td>$432</td>
<td>$16.16</td>
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<tr>
<td></td>
<td>Priority Rate</td>
<td></td>
<td></td>
<td>Weighted Avg: 24</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Job Creation Initiative Priority Rate</td>
<td></td>
<td></td>
<td>Weighted Avg: 35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Retrainees</td>
<td>Business Skills, Computer Skills, Continuous Imp., Hazardous Mat., Mfg. Skills, Advanced Tech., PL-Mfg Skills</td>
<td>34</td>
<td>8-200 0</td>
<td>$792</td>
<td>$16.16</td>
</tr>
<tr>
<td></td>
<td>Veterans</td>
<td></td>
<td></td>
<td>Weighted Avg: 36</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Minimum Wage by County:
- Job Numbers 1 & 3 (Veterans): $17.63 per hour for Santa Clara County; $16.96 per hour for Los Angeles County; $16.72 per hour for San Diego County; and $16.16 per hour for Kern, Santa Barbara, Sonoma and Ventura Counties.
- Job Number 2 (Job Creation): $14.69 per hour for Santa Clara County; $14.13 per hour for Los Angeles County; $13.94 per hour for San Diego County; $13.22 per hour for Kern, Santa Barbara, Sonoma and Ventura counties.

### 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 $2.21 per hour may be used to meet the Post-Retention Wage in Job Numbers 1 & 3.

## Wage Range by Occupation

<table>
<thead>
<tr>
<th>Occupation Titles</th>
<th>Wage Range</th>
<th>Estimated # of Trainees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Number 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operations Staff</td>
<td></td>
<td>125</td>
</tr>
<tr>
<td>Information Technology/Engineering Staff</td>
<td></td>
<td>325</td>
</tr>
<tr>
<td>Sr. Information Technology/Engineering Staff</td>
<td></td>
<td>150</td>
</tr>
<tr>
<td>Manufacturing/Production/Mechanics Staff</td>
<td></td>
<td>475</td>
</tr>
<tr>
<td>Quality Staff</td>
<td></td>
<td>175</td>
</tr>
<tr>
<td>Supervisor/Manager</td>
<td></td>
<td>150</td>
</tr>
</tbody>
</table>
Critical Proposal

This proposal for Northrop Grumman Systems Corporation (NGSC) has been designated a Critical Proposal by the Governor’s Office of Business and Economic Development based on NGSC’s planned business expansion and commitment to adding new jobs in California. The Company has designated its Palmdale facility as a Manufacturing Center of Excellence, one of only two in the nation; and its San Diego facility as an Engineering Center of excellence, one of three in the nation.

INTRODUCTION

Founded in 1939, NGSC (www.northropgrumman.com) is a global security company that develops innovative products and solutions in unmanned systems, cyber, C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance), and logistics for government and commercial customers worldwide. NGSC operates in four different business sectors: Aerospace Systems, Information Systems, Technical Services, and Electronic Systems. This proposal represents NGSC’s Aerospace Systems Sector only, which focuses on developing, integrating, producing, and supporting manned and unmanned aircraft, spacecraft, high-energy laser systems, microelectronics, and other systems and subsystems critical to maintaining the nation’s security. These systems and technologies are used in a variety of mission areas including intelligence, protected communications, battle management, strike operations, electronic warfare, missile defense, and space science and exploration.

Retrainee - Job Creation

The Panel offers incentives to companies that commit to hiring new employees. Training for newly-hired employees will be reimbursed at a higher rate and trainees will be subject to a lower post-retention wage. However, NGSC is not asking for a reduced wage, as all trainees in this proposal will meet the standard ETP Minimum Wage (including health benefits).

NGSC’s Aerospace Systems Sector plans to add more than 900 new jobs in California. These jobs are expected to be added over the next five years and are anticipated to be created primarily at the Company’s facilities in El Segundo, Mojave, Palmdale, San Diego and Redondo Beach. However, additional hiring may occur at other Aerospace Systems Sector locations throughout California.
In this proposal, NGSC has committed to hiring a total of 330 new employees over the next two years. The date-of-hire for all trainees will be within the three-month period before contract approval or within the term-of-contract. These trainees will be hired into "net new jobs" as a condition of contract.

**Prior Projects**

This will be NGSC’s third ETP Agreement within the past five years (See Prior Projects Table). The Company currently has an active contract that is projected to earn 100% prior to the term end date. Due to NGSC’s large number of planned new hires and extensive amount of training needed to support the Company’s accelerated growth in California, the active project was also designated a Critical Proposal.

This proposal is a continuation in the advancement of NGSC’s manufacturing capabilities and is driven by new training initiatives associated with recently procured aerospace/defense contracts. Some incumbent employees may have participated in a previous contract; however, the Company has confirmed that the subject matter differs by contract/project specifications, so there will be no duplication of training.

**PROJECT DETAILS**

There are several initiatives impacting the Company’s planned growth, some of which must remain classified. However, the following key developments are driving the need to hire and train net new workers, as well as retrain incumbent staff:

1) NGSC recently secured several new contracts that will require workforce expansion and increased production capacity:
    
    a) The U.S. Navy has awarded NGSC a contract for the modification of the Japanese E-2D aircraft.
    
    b) NGSC was also awarded a contract by the U.S. Navy for work relating to the modification of the MQ-4C Triton Drone program.
    
    These new contracts, which include complex upgrades to aircraft and systems, require that NGSC equip its workforce with the requisite skills to accommodate increased production.
    
    c) The U.S. Air Force awarded NGSC a contract for work on the Long Range Strike Bomber. The Company will be engineering and manufacturing the aircraft, which is currently planned to be released in the mid-2020s timeframe. This contract will require NGSC to expand its California workforce, as well as upgrade the skills of its incumbent staff as the Company prepares for this new project.

These initiatives require completely new production processes and procedures. NGSC continues to expand its footprint in Palmdale and Mojave to accommodate new manufacturing processes and the global supply-chain needs brought about by production expansion.

**Training Plan**

Training will take place at multiple NGSC Aerospace Systems Sector locations throughout California. Training will be delivered by in-house subject matter experts and training vendors to be identified during the contract term.
Business Skills (10%): Training will be offered to all occupations. This training will focus on communication, negotiation, customer service and documentation skills. Trainees will learn how to provide improved and consistent customer service throughout all business activities.

Computer Skills (15%): Training will be offered to all occupations. NGSC uses a variety of complex systems to run its operations and to build and/or test its products. Employees will receive training on systems and computer applications applicable. Automation and manufacturing software are vital tools for NGSC’s operations, and employees must be proficient in these systems.

Continuous Improvement (15%): Training will be offered to all occupations, with emphasis on Business Development, Change Management, Leadership/Coaching, Process Improvement and Six Sigma skills. A critical component of all products delivered by NGSC Aerospace Systems is “Zero Defect”. Training is designed to help the Company establish and maintain flawless production processes and quality assurance measures.

Hazardous Materials (10%): Training will be offered to Manufacturing/Production/Mechanics, Engineering and Quality Staff. This training will provide supplemental hazardous materials skills to frontline workers and lead personnel. Trainees will learn proper handling of hazardous materials and gases commonly associated with the Company’s manufacturing processes.

Manufacturing Skills (30%): Training will be offered to Manufacturing/Production/Mechanics, Quality and Information Technology/Engineering Staff. This training will ensure that workers have the requisite skills to manufacture products using engineering and design directives to produce aircraft that meet strict quality, safety, and zero defect standards.

Advanced Technology (10%): Training will be offered to Information Technology/Engineering Staff. This training is designed exclusively for highly technical professionals in the engineering/aviation manufacturing industry. Technical courses include Architectural Modeling, Computer Aided Design, Computer Language, Programming/Software Development, and Software Configuration Management. This training is intended to foster a high level of innovation and product development expertise for the next generation of aerospace manufacturing specialists and engineers.

Advanced Technology (AT) training is costlier to deliver than more generalized computer-related subjects. The Company estimates that costs associated with this specialized training will likely range from $72 to $200 per hour, per trainee, depending on the subject matter. Delivery of AT requires expensive system/design equipment and complex software. The 1:10 trainer-to-trainee ratio will be maintained for AT training, providing in-depth coverage of complex course material and personal attention from the instructor.

Productive Laboratory (10%)

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

Certain production skills are best learned through direct observation and hands-on experience. PL training will allow for practical, hands-on instruction that cannot be adequately duplicated in a classroom setting. PL training will be provided to approximately 450 Manufacturing/Production/Mechanics and Quality Staff. PL training will take place at various NGSC Aerospace Systems facilities in California.
Equipment to be used during the proposed PL training includes cranes, forklift, tow tractor, robotic control arm, Moen heater, light cart, air compressor, liquid coolant, hydraulic test stand, aircraft jack, cabin leakage tester, cooling air unit, and paint mixer. Training will be taught by subject matter experts with demonstrated knowledge and expertise in the aerospace manufacturing industry.

NGSC’s training consists of highly technical subject matter that is generally delivered in small group settings to ensure consistency and optimal skills transfer. This small group setting (typically 1:3) allows the trainer to address critical questions while also achieving valuable knowledge sharing among trainees. Therefore, NGSC is requesting a PL trainer-to-trainee ratio of 1:3 and training will be capped at 60 hours per trainee.

Veterans Program

NGSC conservatively plans to train 34 Veterans (Job Number 3) who have served on active full-time duty in the Armed Forces. The Panel has established a higher reimbursement rate and other incentives for training California veterans, as will be reflected in the contract.

Individuals with Disabilities

The Individuals with Disabilities (IWD) program, recently adopted by the Panel, is designed to encourage California employers in their effort to “recruit, hire, train, and retain” workers with disabilities. ETP funding will be available to train these workers, along with other staff who support or have job responsibilities for these trainees. In this proposal, IWD training (Business Skills) will be delivered to incumbent workers and new staff hired during the Agreement term.

Substantial Contribution

NGSC is a repeat Contractor. However, a Substantial Contribution is not being applied because no single NGSC facility has earned $250,000 or more within the past five years.

Commitment to Training

NGSC’s budget for training in California is approximately $7 million for 2017/2018. Company-funded training includes basic job skills training, new employee orientation, diversity, performance management, anti-harassment, extensive on-the-job training, and introductory computer skills. The Company also provides a library of self-paced computer-based training. Safety training is, and will continue to be, provided in accordance with all pertinent requirements under state and federal law.

Training Infrastructure

NGSC has two administrators directly responsible for internal project management. In addition, the Company has several trainers responsible for managing the scheduling, delivery, and documentation of training at the various California facilities. NGSC has also retained an administrative consultant to ensure training adheres to ETP requirements.

Recordkeeping

Staff has reviewed and approved the use of a Learning Management System for recordkeeping.

RECOMMENDATION

Staff recommends approval of this proposal.
ACTIVE PROJECTS

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

<table>
<thead>
<tr>
<th>Agreement No.</th>
<th>Approved Amount</th>
<th>Term</th>
<th>No. Trainees (Estimated)</th>
<th>No. Completed Training</th>
<th>No. Retained</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET16-0228</td>
<td>$899,940</td>
<td>11/16/15 – 11/15/17</td>
<td>1,300</td>
<td>*TBD</td>
<td>*TBD</td>
</tr>
</tbody>
</table>

*Based on ETP Systems, 32,152 reimbursable hours have been tracked for potential earnings of $598,494 (67% of approved amount). The Contractor projects final earnings of 100% based on training and in progress.

PRIOR PROJECTS

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

<table>
<thead>
<tr>
<th>Agreement No.</th>
<th>Location (City)</th>
<th>Term</th>
<th>Approved Amount</th>
<th>Payment Earned $</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET12-0208</td>
<td>Palmdale, Manhattan Beach, San Diego</td>
<td>12/19/11 – 12/18/13</td>
<td>$529,505</td>
<td>$226,749</td>
<td>(43%)</td>
</tr>
</tbody>
</table>

The Company’s primary customer is the U.S. Government, and the agreement term for this particular ETP project coincided with the Budget Control Act of 2011, calling for Department of Defense (DOD) budget cuts. Additional mandated reductions took place during the U.S. Government sequestration process which required an additional $40 billion in defense budget cuts during the time period of the ETP Agreement. These budget cuts immediately caused delays in DOD contract awards, suspending deliverables from NGSC. The planned delivery of training was delayed or postponed, as a result.

DEVELOPMENT SERVICES

Training Funding Partners (TFP) in Fountain Valley assisted with development for a flat fee of $28,500.

ADMINISTRATIVE SERVICES

TFP will also perform administrative services for a fee 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:

BUSINESS SKILLS
- Business/Technical Writing Skills
- Communication Skills
- Contract/Negotiation Skills
- Customer Service Skills
- Documentation Skills
- Finance/Accounting Skills
- Metrics/Measurement
- Planning and Scheduling
- Presentation Skills
- Sourcing and Procurement Skills
- Supply Chain Management
- Train-the-Trainer Skills

Individuals with Disabilities
- Accessibility 102
- Disability Sensitivity and Awareness
- Employment Laws: Disability and Discrimination
- Hiring People with Disabilities
- Interviewing Applicants with Disabilities
  - Leading a Disability Inclusive Workforce

COMPUTER SKILLS
- Business Intelligence/Data Management Skills/Digital Data Overview
- Computer Programming/Software Development Skills
- Document Sharing Process System
- Earned Value Management System
- Enterprise Export Management System Skills
- Enterprise Resource Planning System
- Information Handling System
- Information Systems Security
- Intermediate/Advanced MS Office Skills (Word/Excel/PowerPoint)
- Learning Exchange System Skills
- Microsoft Project
- Microsoft Visio
- Opportunity Tracking Tool
- Parts System Skills
- PeopleSoft System Skills
- Product Data Management
- Publication Training (Acrobat Professional XI)
- QuickSilver Training
- Real Time Operating System
- SAP Skills
- Software/Hardware Skills
- System Architecture/Design Skills
- Visual Basic Skills
CONTINUOUS IMPROVEMENT

- Business Development Skills
- Change Management Skills
- Conflict Management Skills
- Resource Planning
- Global Perspectives
- ISO Standards
- Leadership/Coaching Skills
- Meeting Management Skills
- Process Improvement/Six Sigma Skills
- Project/Program Management Skills
- Quality Assurance/Quality Control
- Risk Management Skills
- Strategic Thinking Skills
- Team Building Skills
- Troubleshooting Skills

HAZARDOUS MATERIALS

- Central Transfer Station Hazwaste Generator
- Transportation of Dangerous Goods
- Hazardous Materials/Hazard Communication Skills/Gases
- Resource Conservation and Recovery Act for Environmental Monitors and Supervisors

MANUFACTURING SKILLS

- Advanced Safety Skills
  - Asbestos Awareness
  - Certified Oxygen Cleanliness Instructor
  - Laser Safety and Hazard Awareness
  - Nuclear Safety Training
  - Weapon System Safety Training
  - Integrated Assembly Line Safety
- Aerospace Manufacturing Equipment Training
- Aerospace Manufacturing Operations Skills
- Aircraft Maintenance, Modification and Testing
- Aircraft Structural Design/Development
- Assembly/Subassembly/Fabrication Skills
- Aviation Systems Support Skills
- Engineering Design/Engineering Skills
- Flight Operations
- Manufacturing Automation Systems
- Manufacturing Resource Planning
- Measurement Device Skills
- Metrology
- Missile Defense Agency/Missile Systems
- Paperless Manufacturing Systems
- Process Control Lab Skills
- Production Control
- Robotic Technology
- Sanding/Stripping
- System Test/Checkout

Safety Training is capped at 10% of a trainee’s total training hours

**ADVANCED TECHNOLOGY**
- Abortext Software (Authoring for DITA using Arbortext Editor 5.4)
- Architectural Modeling Skills
- Computer-Aided Design Skills
- Computer-Aided Production Environment
- Computer-Assisted Three-Dimensional Interactive Application
- Computer Language Skills
- Computer Programming/Software Development Skills
- Dynamic Object Oriented Requirements System
- Electronic Data Technology
- Engineering Software Skills
- Enterprise Architecture Software/Systems
- Fibre Channel Storage Networking
- Red Hat Enterprise Linux Admin and User
- Service Oriented Architecture
- Software Configuration Management
- Software/Hardware Skills
- System Architecture/Design Skills
- Web Design/Content Management

**Productive Lab Hours**
0-60

**MANUFACTURING SKILLS (1:3 ratio)**
- Aerospace Manufacturing Equipment Training
- Aircraft Maintenance, Modification and Testing
- Aircraft Structural Design/Development
- Assembly/Subassembly/Fabrication Skills
- Robotic Technology

Note: Reimbursement for retraining is capped at 200 total training hours per trainee, regardless of the method of delivery. PL is capped at 60 hours per trainee.