

**TECHNICAL INSTRUCTION (NAVSEA TEMPLATE)**

Ref. (a) NAVSEA 5252.242-9115 (TECHNICAL INSTRUCTIONS)

Enclosure (if applicable): [     ]

This Technical Instruction (TI) is issued pursuant to reference (a) from my capacity as the Contracting Officer's Representative (COR) for the contract/order identified below. This TI is issued with the understanding that implementation is within the present scope of the contract/order and that it does not change the statement of work or other terms and conditions. Nothing herein should be construed as amending the subject contract/order or as changing any contractual requirements. If the contractor believes that compliance with anything herein would constitute a change in the requirements of the subject contract/order, the contractor should not accept the TI and notify the Procuring Contracting Officer (PCO), in writing, within ten (10) working days, specify the reason(s) for such belief, and take no further action. A copy should also be sent to the COR.

**Note: The contractor shall inform the COR, in writing, when 75% of the costs allotted to this TI have been expended. Expenditures for this TI shall not exceed the allotted amount. This TI is contingent upon the availability of funds and performance shall not commence until funding has been obligated on the contract/order.**

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| <b>TI No./Revision No.</b>                        | TI-12 , Rev. 0   |             |                  |                       |
| <b>TI Revision Issue Date (if applicable)</b>     |  |             |                  |                       |
| <b>Original TI Issue Date</b>                     | 17 Feb 2014  |             |                  |                       |
| <b>Purpose of Revision (if applicable)</b>        |  |             |                  |                       |
| <b>Contract/Task Order No.</b>                    | N00178-07-D-4963-0002  |             |                  |                       |
| <b>Government Agency/Activity</b>                 | NSWCDD   |             |                  |                       |
| <b>Sponsoring Office</b>                          | <b>Organization</b>  |             | <b>Code</b>      |                       |
|   | Directed Energy Division   |             | Q20              |                       |
| <b>Program/Technical Office</b>                   | <b>Name</b>  | <b>Code</b> | <b>Telephone</b> | <b>Email Address</b>  |
|   | [REDACTED]   | [REDACTED]  | [REDACTED]       | [REDACTED]            |
| <b>Contracting Officer's Representative (COR)</b> | <b>Name</b>  | <b>Code</b> | <b>Telephone</b> | <b>Email Address</b>  |
|   | [REDACTED]   | [REDACTED]  | [REDACTED]       | [REDACTED]            |
| <b>Procuring Contracting Officer (PCO)</b>        | <b>Name</b>  | <b>Code</b> | <b>Telephone</b> | <b>Email Address</b>  |
|   | [REDACTED]   | [REDACTED]  | [REDACTED]       | [REDACTED]            |
| <b>Contractor</b>                                 | ATI  |             |                  |                       |
| <b>Contractor POC</b>                             | <b>Name</b>  | <b>Code</b> | <b>Telephone</b> | <b>Email Address</b>  |
|   | Bill Taczak  |             | 540-663-0050     | btaczak@appliedti.com |
| <b>Severability</b>                               | Severable <input checked="" type="checkbox"/> Non-Severable <input type="checkbox"/>   |             |                  |                       |
| <b>Special Skills Required</b>                    | Predictive Avoidance; Command and Control; Optical and HEL systems   |             |                  |                       |
| <b>Applicable SOW/PBWS Paragraph Number(s)</b>    | C.2.1.1, C.2.1.2, C.2.1.4, C.2.2.1, C.2.2.2, C.2.2.3, C.2.4.1, C.2.4.2, C.2.5.1, C.2.5.2, C.2.5.4, C.2.5.5, C.2.5.7, C.2.6.1, C.2.6.2, C.2.7.1, C.2.7.2, C.2.7.4   |             |                  |                       |
| <b>TI Title</b>                                   | Predictive Avoidance and Airspace Deconfliction (PA/AD) Proof-of-Concept Development)  |             |                  |                       |
| <b>TI Description</b>                             | The Directed Energy Warfare Office (DEWO) and Code Q21 are involved in the development of Predictive Avoidance (PA) technologies and implementation approaches for integration with DoD High Energy Laser (HEL) weapon systems to support command and control (C2) and airspace Deconfliction (AD) functions. The intent of this effort is to develop government-owned / government-controlled design(s) as part of the development of a proof-of-concept demonstrator, and to provide insight to refinements as |             |                  |                       |

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part of future development efforts.

Engineering support is required to assist the government in establishing the design, development, integration, and demonstration of a PA/AD proof-of-concept. Specific tasks are:

- 1) Engineering Analysis:
  - Support collection, consolidation, analysis and reporting of DoD HEL-related systems and service-specific needs to define the PA/AD integration architecture and scope of the efforts for future tasks under this effort including the development/documentation of use-cases
  - Provide technical insight and guidance on capabilities, limitations, and performance of the PASS systems including implementation of algorithms, ICDs, HW and SW configuration, and available computational capabilities
- 2) System Development:
  - Assist the government in defining and documenting proof-of-concept and objective software and hardware architectures, interfaces, hardware requirements, software algorithms, and externally sourced information (e.g., Predictive Avoidance Approval Messages)
  - Support proof-of-concept software development efforts implementing the government specified algorithms for AD
  - As required provide materials required to integrate and demonstrate the proof-of-concept system including, but not limited to: computers, cabling, communications equipment (e.g., switches and routers), and tracking equipment/sensors
  - Support integration and testing of hardware and software subsystems and components
  - Provide software configuration management support during design and construction of the proof-of-concept solution
  - Support the development of systems engineering and related documentation including plans, reports, and presentations
- 3) Subsystem Development and Integration Support:
  - Support planning and coordination efforts in preparation for the proof-of-concept demonstration
  - Support proof-of-concept development, data collection, and data analysis in support of design refinement; focus of these efforts are to validate performance of subsystems and components in USMC representative environments

|   |   |
|---|---|
| <b>Applicable Documents<br/>If none, insert N/A</b>   | Advanced PA-AD Statement of Work, CoT Interface Definition, HPASS 1.0 ICD ) |
| <b>Government Furnished Information (GFI),<br/>Government Furnished Equipment (GFE),<br/>Government Furnished Material (GFM);<br/>Government Furnished Facilities (GFF)</b> | GFI: NA<br>GFE: NA<br>GFM: NA<br>GFF: NA<br>Other: NA                       |
| <b>If none, insert N/A</b>  |   |
| <b>Duty Location</b>  | N/A   |



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|------|--|-------------|-------------|-----|
| A004 | Technical Report – Contractor generated reports on studies, assessments, and testing                     | Email       | As Required | TBD |
| A005 | Computer Software Product End Items – Contractor developed software executables and (source code)        | Email or CD | As Required | TBD |
| A007 | Engineering Drawings - electrical and mechanical drawings for build, reproducibility, and documentation. | Email       | As Required | TBD |

**Security Classification**      Unclassified // For Official Use Only to Secret


**Hazard and Safety Information**  
*(The checked (X) Hazard and Safety Instructions are applicable to this TI)*

Known Hazards: (NA )  
 No Hazard or Safety Information applicable  
 Other (Specify: \_\_\_\_\_)  
 Other (Specify: \_\_\_\_\_)  
 Other (Specify: \_\_\_\_\_)

|                       |                    |             |               |                       |
|-----------------------|--------------------|-------------|---------------|-----------------------|
| TI ROM Cost Estimate: | <b>Total Hours</b> | <b>ODCs</b> | <b>Travel</b> | <b>Total Estimate</b> |
|                       |                    |             |               |                       |

This TI shall not be construed as a change to the terms or conditions of the subject contract/order.

PCO concurrence:

  
 \_\_\_\_\_  
 (Signature)  
 Contracting Officer

Raj Soni  
 (print name)

18 Feb 14  
 \_\_\_\_\_  
 (date)

**PARKER.ARLINE.W.1241946572**

Digitally signed by PARKER.ARLINE.W.1241946572  
 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USN, cn=PARKER.ARLINE.W.1241946572  
 Date: 2014.02.18 12:17:25 -05'00'

\_\_\_\_\_  
 (Signature)  
 Contracting Officer's Representative

Arline W. Parker  
 (print name)

\_\_\_\_\_  
 (date)

**Acknowledgement of receipt by Contractor:**

  
 \_\_\_\_\_  
 (Signature)  
 Authorized Representative of Contractor

WILLIAM J. TACZAR JR.  
 (print name)

10 FEB 14  
 \_\_\_\_\_  
 (date)

|                     |                |
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| TI No./Revision No. | TI-XX, Rev. XX |
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**NOTE – ALL TECHNICAL INSTRUCTIONS MUST BE CONCURRED WITH BY THE PCO PRIOR TO RELEASE.**

Copy to:

