# Range Operations Contract (ROC)

# Task Order #01

## Task

The Period of Performance of this Task is six months beginning August 27, 2010 through February 26, 2011.

This Task Order is to provide range systems operations; engineering services; systems maintenance, personnel training, process improvements and process control services during non-operations periods; command, control, air traffic, communications, aircraft fueling, calibration services, wide area network communications services, information and computer systems operations; testing, modifying and installing communications and electronic systems, launch control centers and test facilities; and range technology development engineering services. This Task Order is to provide qualified personnel, equipment, tools, materials, vehicles, supervision, and other services to meet the mission set and associated requirements as specified in the SOW or referenced in this Task Order and the performance metrics defined in the SOW. Instrumentation systems are permanently located at Wallops Flight Facility (WFF) and at Poker Flat Research Range (PFRR), Alaska. In addition, mobile instrumentation is to be deployed to remote locations defined in this Task Order to meet Range customer requirements.

As detailed in the SOW, the contractor is to provide appropriate levels of program management; operations and engineering project management: sustaining, maintenance, and technology engineering; telemetry, radar, control center, communications, timing and command, photography and video, meteorological, power, and network operations, maintenance and logistics services in support of the mission set provided below.

In addition, the contractor shall provide Information Technology Systems Security Management, Facilities Operations and Security Management, Health and Safety Management, Physical Security Management, and Human Capital Management as specified in SOW Section 3.

The contractor shall provide an operable data interface between the contractor's accounting system and WIIMS within the 6 months of this task period of performance and shall be demonstrated by production of accurate reporting products as defined in SOW Section 3.1.5.

During this task's initial period of performance, the Government will provide Maximo® Version 7.1 and hosting systems and the contractor shall utilize this system for work control management in accordance with Section 3 in the SOW.

Below is the Mission Set for the missions to be supported along with the currently slated flight/launch/test date. Note that missions have multiple dates indicating they are occurring multiple times within the six month period and may change during the six-month period based on the uncertain nature of the launch range environment.

## Mission Set

**National Weather Service Balloon Soundings (daily operations) at Wallops**
The contractor shall release balloons from Wallops twice daily and acquire data and forward to National Weather Service. Balloons are launched every day at 0000Z and 1200Z.

**STS Flight Readiness Data Flows and Launch Supports at Wallops**
August 27, 2010 (Data Flow) – September 16, 2010 (Launch)
October 10, 2010 (Data Flow) – November 15, 2010 (Launch)

**Soyuz Launch Supports from Wallops (all 2010)**
September 8 (Unmanned Cargo to ISS)
October 8 (Manned Transport to ISS)
October 27 (Unmanned Cargo to ISS)
December 10 (Manned Transport to ISS)
December 27 (Unmanned Cargo to ISS)

**Unmanned Aircraft System (UAS) Missions at Wallops**

| | | |
|---|---|---|
| August 2010 | November 2010 | February 2010 |
| September 2010 | December 2010 | |
| October 2010 | January 2010 | |

**Navy High Performance Aircraft Missions at Wallops**

| | | |
|---|---|---|
| August 2010 | November 2010 | February 2010 |
| September 2010 | December 2010 | |
| October 2010 | January 2010 | |

**Operationally Responsive Space Minotaur 1 Launch from Wallops**
Launch Window: November 26, 2010 – December 10, 2010

**Taurus II Non-Launch Support at Wallops**
Cold Flow Test: January 2011
Static Fire Test: February 2011

**Aircraft Water Ingestion Testing at Wallops**
August 2010

**Sounding Rocket Launches from Wallops**
December 2010 – Terrier Improved Malemute Sounding Rocket (Engineering Test Flight)

**Norway Sounding Rocket Campaign**
Launch Window: November 28, 2010 – December 12, 2010 Black Brant 12 (Principal Investigator: Lessard)

**Alaska Sounding Rocket Campaign**
Launch Window: January 25, 2011 – February 4, 2011 Terrier Orion Sounding Rocket (SubTEC IV)
Launch Window: January 25, 2011 – February 4, 2011 Black Brant 9 (Principal Investigator: Bailey)
Launch Window: January 25, 2011 – February 4, 2011 Black Brant 9 (Principal Investigator: Green)

## Task Implementation Plan/Range Instrumentation Project Plans

A general Task Implementation Plan (TIP) shall be the formal response to Task Order #01 defining how the contractor will meet the requirements set forth in this task order. As stated in the ROC SOW, Project Support Plans (PSPs) for each mission in the mission set above shall address each mission required service element in the ROC SOW and how each ROC SOW element, if needed in support of the mission requirements defined in this Task Order, is implemented. PSPs shall be in response to Government provided Program Requirements Documents (PRDs). PSPs shall be provided within two weeks of the Government providing the PRD to the contractor, or as defined by the COTR.

The TIP and Cost Proposal shall detail how the Task Order requirements will be implemented in support of the mission requirements in this Task Order for six months and clearly define general service provision risks associated with the operations schedule and mission requirements.

The TIP shall define the contractors approach to ensure the PSPs include details of mission support implementation approaches required for these complex missions including management, engineering, and logistics services required to provide comprehensive range operations services for the entire task period of performance.

The TIP shall define the contractors approach to ensure PSPs detail how requirements will be managed and controlled from the identification phase to the implementation phase along with detailed systems support architecture, testing approach, identification and management of issues and risks, and detailed implementation, test, and operations schedules given the launch/flight dates defined in mission requirements documents and the Task Order.

The TIP shall define how engineering upgrades will be managed, contingency plans implemented, and how maintenance of systems, engineering, personnel proficiency training, and process improvements and control services will be implemented during time periods between mission operations.

The TIP shall define how mission specific PSPs will effectively implement staffing approaches with mitigations as necessary (including subtask leads, roles and responsibilities, reporting structure, and formal reporting process), and deployment plans and dependencies for required off-site operations locations.

The TIP shall include optional approaches based on cost, risk, and other factors.

The TIP shall define the support structure (staffing and systems) remaining at the Wallops Flight Facility for continuing local mission supports that may occur during the Operationally Responsive Space Minotaur 1 mission, Norway Sounding Rocket Campaign, and Alaska Sounding Rocket campaign since these off-site requirement may create local support resource deficiencies.

The TIP shall define how the contractor will meet the quality assurance requirements as defined in the ROC SOW.

The list of required systems, reports, plans, procedures, and other deliverables in support of the Task Order requirements is included in the table below. These deliverables are further detailed in the SOW to provide information related to content and purpose.

The deliverables below include an approved Configuration Management System, Range Operations Management System, and a Digital Image Database System (not due for operation until 9-months after Task Order #01 start but progress review shall occur at the end of TO1 initial period of performance) with details of the system requirements found in the SOW sections defined in the table. In addition, the table below defines the delivery schedule, the delivery format (if needed), and to whom it is delivered.

# TO #01 Deliverables

| Deliverable | SOW Section | Schedule/Due | Deliver To | Format | Notes |
|---|---|---|---|---|---|
| Range Readiness Review Package | 3.1.1 | For Every Mission | NASA PM | MSPowPnt | All at L – 2 Weeks |
| Weekly Activity Report | 3.1.2 | Weekly | COTR | MSWord | Noon on Thursdays |
| Monthly Status Report and Data | 3.1.3 | Monthly | COTR | MSPowPnt | By 5th of each Month |
| Post Mission Services Report | 3.1.4 | Two weeks post mission | COTR | MSWord | |
| WIIMS Reporting Products | 3.1.5 | 6 months after TO start | CO | Varies | |
| Configuration Management System | 3.3 | 3 months after TO start | Online | TBD | Approved by COTR |
| Range Operations Management Sys | 4 | 6 months after TO start | Online | TBD | Approved by COTR |
| Wallops Daily Range Operations Schedule | 4 | Daily | Online | TBD | Email notification |
| Discrepancy Reports (DR) | 4 | Event Driven | Online | TBD | CM Process |
| Project Support Plans | 4.1 | Per Project Schedule | COTR | MSWord | Online Delivery |
| Preventative Maintenance Procedures | 5 | Upon Request | COTR | MSWord | |
| Preventative Maintenance Data | 5 | Upon Request | COTR | MSWord | Results of PM's |
| Mission Quick Look Data | 8 | One hour after mission | NASA PM | Varies | |
| Digital Image Database System | 10 | 9 months after start | Online | TBD | Occurs in TO1 extension |
| Monthly Control Tower Report | 13 | Monthly | COTR | MSWord | By 10th of each month |

# Range Operations Contract (ROC)

# Task Order #02

## Taurus 2 Systems Development and Launch Operations

## Task

The Period of Performance of this Task is 10 months beginning February 1, 2011 through December 31, 2011.

This Task Order is to provide qualified personnel, equipment, tools, materials, supervision, and other services to meet the Taurus 2 requirements as specified in the SOW and mission specific requirements documents. Taurus 2 Mission Program Requirements Document Revision 3 is provided for reference.

To meet these requirements, this Task Order is to provide range systems operations; engineering services; command, control, air traffic, communications, aircraft fueling, wide area network communications services, information and computer systems operations; testing, modifying and installing communications and electronic systems, and launch control centers and test facilities for Taurus 2 launch system development and launch operations. All performance metrics defined in the SOW are required to be met.

Range operations instrumentation systems permanently located at Wallops Flight Facility (WFF) and mobile instrumentation deployed to remote locations is anticipated to meet requirements defined in this Task Order.

In addition, the contractor shall provide a Task Implementation Plan response and cost estimate aligned to the SOW WBS. As part of this task, but not part task order response requirement, the project management WBS attached to this Task Order is to be completed under the direction of the Task Monitor, Mr. Robert Hurley. In addition to contractual reporting requirements in place, technical, schedule, and cost reporting for this task shall be in accordance with the attached project WBS.

This task also includes a requirement for a Project Manager responsible for the management of both #1 and #2 development tests defined below. This project manager will work under the direction of the Taurus 2 Project Manager in Code 840 and follow Code 840, Range and Mission Management Office, project management processes.

Below is the high level test/launch milestone dates for the Taurus 2 development and launch activities. Additional supporting milestones for the below activities can be found in mission specific requirements documents.

1. **Taurus 2 "5K" Cold Flow System Development Test – April 2011**
2. **Taurus 2 "7K" Hot Flow System Development Test – July 2011**
3. **Taurus 2 Demonstration Launch – August 2011**
4. **Taurus 2 ISS Cygnus Launch – December 2011**

## Task Implementation Plan/Project Support Plans

A Task Implementation Plan (TIP) shall be the formal response to Task Order #02 defining how the contractor will meet the requirements set forth in this task order. As stated in the ROC SOW, a Project Support Plan (PSP) for each major milestone defined above shall be provided in advance of the milestone on a schedule based on existing project management processes implemented by the ROC contract's Range Services Management Office.

The TIP and Cost Proposal shall detail how the Task Order requirements will be implemented in support of the Taurus II requirements referenced in this Task Order for the task period of performance and clearly define general service provision risks associated with the operations schedule and mission requirements and other ROC Task Order commitments.

The TIP shall reference established ROC developed processes to be utilized to ensure details of mission support implementation approaches required including; management, engineering, and logistics services, for comprehensive range services will be provided for the entire task period of performance. The TIP shall define the how the contractors approach will be communicated using established processes to manage and control requirements from the identification phase to the implementation phase. The TIP shall define how mission requirements driven engineering upgrades will be managed and contingency plans implemented.

The TIP shall define how staffing approaches with mitigations as necessary (including subtask leads, roles and responsibilities, reporting structure, and formal reporting process), and deployment plans and dependencies for required off-site operations locations will be communicated using established processes. Of special note are risks associated with support requirements defined in other approved ROC task orders.

The list of required systems, reports, plans, procedures, and other deliverables in support of the Task Order requirements is included in the table below. These deliverables are further detailed in the SOW to provide information related to content and purpose.

# TO #02 Deliverables

| Deliverable | Deliver To | Notes |
|---|---|---|
| Instrumentation Support Briefings | NASA PM | Presentation required |
| Range Readiness Review data | NASA PM | Presentation required |
| Post Mission Services Report | NASA PM | |
| Project Support Plans | NASA PM | |
| Mission Quick Look Data | NASA PM | |
| Project Plan (#1 and #2 tests) | NASA PM | |

# TO #02 Comprehensive Project WBS

It should be noted that the following WBS is the comprehensive project WBS. Information required by the contractor in this WBS is not required as part of this task order response yet is an element of the performance requirements established in this task order and is to be completed under the direction of the Task Monitor, Mr. Rob Hurley.

T2 WBS and
Activities Duration Est

All areas shall be completed where applicable to services provided by the ROC. In addition, recommendations where the provided service/material can be defined to a lower WBS level to maintain a higher degree of management oversight is requested. The WBS response as part of this task order shall include a WBS dictionary definition for every ROC service/material deliverable.

# Range Operations Contract (ROC)

# Task Order #02

# Revision A

## Taurus 2 Systems Development and Launch Operations

## Task Revisions

The Period of Performance of this Task has been extended. The original task was for 10 months beginning February 1, 2011 through December 31, 2011. This revision A is to extend the end date to March 31, 2012.

The task is revised to include ground operations staffing in support of range, spacecraft, and launch vehicle integration and test services for the Taurus II Program. These services shall include ordnance handling, high pressure systems operations and maintenance, clean room facilities operations and maintenance, lifting systems operations and maintenance, and operations safety.

Below are the updated high level test/launch milestones and dates for the Taurus 2 development and launch activities. Additional supporting milestones for the below activities can be found in mission specific requirements documents.

1. **Taurus 2 "7K Series" System Development Test – November 2011**
2. **Taurus 2 "TII ONE" Launch – December 2011**
3. **Taurus 2 "ORB-D1" Launch – February 2012**

All requirements defined in the original task order, not identified above as changes, shall also be met.

# Range Operations Contract (ROC)

# Task Order #02

# Revision C

## Taurus 2 Systems Development and Launch Operations

## Task Revisions

The Period of Performance of this Task is modified to extend the Period of Performance to November 23, 2012. This revision is also to redefine project milestone and launch dates and major service elements.

Below are the updated high level test/launch milestones and dates for the Taurus 2 development and launch activities. Additional supporting milestones for the below activities can be found in mission specific requirements documents. Below are the updated project milestones and service elements.

1. **Taurus 2 "5K/7K Series" System Development Test – April 2012**
2. **Taurus 2 "TII ONE" Launch – May 2012**
3. **Taurus 2 "ORB-D1" Launch – October 2012**
4. **Taurus 2 "Operations Sustainment Services" – Ongoing**

All requirements defined in the original task order, not identified above as changes, shall also be met.

Rev. D

# Task Order 02
# NNG10WA14C
# Range Operations Contract

I. **MISSION TASK NAME:** Operations and Sustainment Services for Payload Processing, Spacecraft Fueling, and Launch Vehicle Processing Facilities.

II. **DATE OF TASK REQUEST:** 25 May 2012

III. **TYPE OF TASK:** Cost Plus Award Fee

IV. **BACKGROUND**: The Range Operations Contract (ROC) provides support services including maintenance and operation of range instrumentation systems, air traffic management, and range technology engineering. The Contractor performs sustaining engineering, logistics, facilities management, and hardware and software engineering in support of the Wallops Research Range. The Contractor supports the NASA Goddard Space Flight Center's (GSFC's) Wallops Flight Facility (WFF) by providing range operations services for the purpose of meeting NASA and NASA's customers' mission requirements.

V. **SERVICES REQUESTED:** This Task Order is to provide qualified personnel, equipment, tools, materials, supervision, and other services to meet the Antares requirements as specified in the SOW and mission specific requirements documents. The Taurus II/Cygnus Program Requirements Document for Wallops Flight Facility (WFF) dated May 10, 2011 is provided for reference.

To meet these requirements, this Task Order is to provide personnel to maintain and sustain the facilities and systems required to support Antares launch vehicle and Cygnus payload processing. Efforts should include documenting the current configuration of Wallops Launch Range systems, corrective maintenance support, and proposing and pursuing facility upgrades and sustainment efforts.

Facilities specifically the task order will support are the Horizontal Integration Facility, Payload Processing Facility, Spacecraft Fueling Facility. Each of these facilities has pneumatic, safety, and monitoring systems which need maintaining and operation under this task order. In addition to the facilities listed, scope should include mobile assets associated with support of facilities listed. These mobile assets include nitrogen rechargers, LN2 dewar, fueling waste tankers, box truck, and scape van. Operation of these mobile assets will require Commercial Driver's License as well as hazardous mat stamps for operation on public roads.

System operability maintenance includes providing clean room operation and maintenance including consumables, sample analysis for commodities and pneumatic systems; gauge calibration and critical spare maintenance.

Spacecraft fueling set up and support including vacuum system, nominal and high rate exhaust vans, breathing air system, SCAPE operations coordination, SCAPE valet support, level B valet, level B facility decon operations, hypergolic fuel transport, as well as transport and storage of contaminated equipment to be decontaminated.

Sustaining, calibration and maintenance of equipment to support operations in processing and fueling facilities including oxygen sensors, hydrazine and oxidizer monitors, particle counters, and extensive GSE dedicated to these facilities. (may want to include inventory of equipment or could request ROC to provide inventory of this equipment)

Commodities for spacecraft processing and launch vehicle processing in NASA facilities; Payload Processing Facility, Horizontal Integration Facility, and Spacecraft Fueling Facility. The commodities include He, LN2, GN2, and air. The scope of work includes managing the commodity supply, maintain cleanliness system integrity, and operability.

Sustaining, calibration and maintenance of equipment to support operations in processing and fueling facilities including oxygen sensors, hydrazine and oxidizer monitors, particle counters, and extensive GSE dedicated to these facilities.

Personnel to perform the requested operations must be certified on bridge cranes, fork lifts, lifting devices (I.e scissor lifts), pressure system operators, cryogenic training, hazmat training, CDLs, etc.

A Task Implementation Plan (TIP) shall be the formal response to Task Order #2 defining how the contractor will meet the requirements set forth in this task order.

The TIP and Cost Proposal shall detail how the Task Order requirements will be implemented in support of the requirements referenced in this Task Order for the task period of performance and clearly define general service provision risks associated with the operations.

The TIP shall define how staffing approaches with mitigations as necessary (including subtask leads, roles and responsibilities, reporting structure, and formal reporting process),

All required systems, reports, plans, procedures, and other deliverables in support of the Task Order requirements will be defined by the Task Order Monitor.

VI. **SCHEDULE:** Below is the high level test/launch milestone dates. Additional supporting milestones for the below activities can be found in mission specific requirements documents.

1. Antares 5000.2 Series Stage Test – July 2012
2. Antares 7000 Series Stage Test – August 2012
3. A-ONE Demonstration Launch – October 2012
4. ORB-D1 ISS Cygnus Launch – December 2012

## VII. DOES THIS TASK REVISE, AMEND, OR REPLACE AN EXISTING TASK? (IF YES,PROVIDE DETAILS): Yes

## VIII. SIGNATURES:

Valid signatures when approved through ROC IMS.

# Task Order 02
# Modification E
# NNG10WA14C
# Range Operations Contract

I. **MISSION TASK NAME:** Operations and Sustainment Services for Payload Processing, Spacecraft Fueling, and Launch Vehicle Processing Facilities.

II. **DATE OF TASK MODIFICATION REQUEST:** 09 January 2013

III. **TYPE OF TASK:** Cost Plus Award Fee

IV. **BACKGROUND**: The Range Operations Contract (ROC) provides support services including maintenance and operation of range instrumentation systems, air traffic management, and range technology engineering. The Contractor performs sustaining engineering, logistics, facilities management, and hardware and software engineering in support of the Wallops Research Range. The Contractor supports the NASA Goddard Space Flight Center's (GSFC's) Wallops Flight Facility (WFF) by providing range operations services for the purpose of meeting NASA and NASA's customers' mission requirements.

V. **SERVICES REQUESTED:** This Task Order is to provide qualified personnel, equipment, tools, materials, supervision, and other services to meet the Antares requirements as specified in the SOW and mission specific requirements documents. The Taurus II/Cygnus (Antares) Program Requirements Document for Wallops Flight Facility (WFF) dated May 10, 2011 was provided for reference. Updates to this document have been provided to LJT during the performance of this task order.

To meet these requirements, this Task Order is to provide personnel to maintain and sustain the facilities and systems required to support Antares launch vehicle and Cygnus payload processing. Efforts should include documenting the current configuration of Wallops Launch Range systems, corrective maintenance support, and proposing and pursuing facility upgrades and sustainment efforts.

Specifically, the task order will support are the Horizontal Integration Facility, Payload Processing Facility, Spacecraft Fueling Facility. Each of these facilities has pneumatic, safety, and monitoring systems which need maintaining and operation under this task order. In addition to the facilities listed, scope should include mobile assets associated with support of facilities listed. These mobile assets include nitrogen rechargers, LN2 Dewar's, fueling waste tankers, box truck, and scape van. Operation of these mobile assets will require Commercial Driver's License as well as hazardous mat stamps for operation on public roads.

System operability maintenance includes providing clean room operation and maintenance including consumables, sample analysis for commodities and pneumatic systems; gauge calibration and critical spare maintenance. Spacecraft fueling set up and support including vacuum system, nominal and high rate exhaust vans, breathing air system, SCAPE operations coordination, SCAPE valet support, level B valet, level B facility decon operations, hypergolic fuel transport, as well as transport and storage of contaminated equipment to be decontaminated.

Sustaining, calibration and maintenance of equipment to support operations in processing and fueling facilities including oxygen sensors, hydrazine and oxidizer monitors, particle counters, and extensive GSE dedicated to these facilities. (may want to include inventory of equipment or could request ROC to provide inventory of this equipment)

Commodities for spacecraft processing and launch vehicle processing in NASA facilities; Payload Processing Facility, Horizontal Integration Facility, and Spacecraft Fueling Facility. The commodities include He, LN2, GN2, and air. The scope of work includes managing the commodity supply, maintain cleanliness system integrity, and operability.

Sustaining, calibration and maintenance of equipment to support operations in processing and fueling facilities including oxygen sensors, hydrazine and oxidizer monitors, particle counters, and extensive GSE dedicated to these facilities.

Personnel to perform the requested operations must be certified on bridge cranes, fork lifts, lifting devices (I.e scissor lifts), pressure system operators, cryogenic training, hazmat training, CDLs, etc.

A Task Implementation Plan (TIP) supplement shall be the formal response to this Task Order #02 MOD defining any changes in how the contractor will meet requirements set forth in this task order not already defined in previous TIP submittals.

The TIP supplement and Cost Proposal shall detail how the Task Order requirements will be implemented in support of the requirements referenced in this Task Order for the task period of performance and clearly define general service provision risks associated with the operations if different from previous TIP submittal.

The TIP shall define any changes in staffing approaches with mitigations as necessary (including subtask leads, roles and responsibilities, reporting structure, and formal reporting process),

All required systems, reports, plans, procedures, and other deliverables in support of the Task Order requirements will be defined by the Task Order Monitor.

VI. **SCHEDULE:** Below is the high level test/launch milestone dates. Additional supporting milestones for the below activities can be found in mission specific requirements documents.

1. Antares 5000.2 Series Stage Test – December 2012 - January 2013
2. Antares 7000 Series Stage Test – January - February 2013
3. A-ONE Demonstration Launch – March 2013
4. ORB-D1 ISS Cygnus Launch – August 2013

VII. **DOES THIS TASK REVISE, AMEND, OR REPLACE AN EXISTING TASK? (IF YES,PROVIDE DETAILS): Yes**

**VIII. SIGNATURES:**

Valid signatures when approved through ROC IMS.

# Range Operations Contract (ROC)

# Task Order #03

## Task

The Period of Performance of this Task is six months beginning February 27, 2011 through August 26, 2011. This task defines a new mission set requirements that will occur during the period of performance of this task.

This Task Order is to provide range systems operations; engineering services; systems maintenance, personnel training, process improvements and process control services during non-operations periods; command, control, air traffic, communications, aircraft fueling, calibration services, wide area network communications services, information and computer systems operations; testing, modifying and installing communications and electronic systems, launch control centers and test facilities; and range technology development engineering services. This Task Order is to provide qualified personnel, equipment, tools, materials, vehicles, supervision, and other services to meet the mission set and associated requirements as specified in the SOW or referenced in this Task Order and the performance metrics defined in the SOW. Instrumentation systems are permanently located at Wallops Flight Facility (WFF) and at Poker Flat Research Range (PFRR), Alaska. In addition, mobile instrumentation is to be deployed to remote locations as required in mission specific requirements documents.

The contractor shall complete the data interface between the contractor's accounting system and WIIMS by May 1, 2011. This date was extended past the due date defined in Task Order #01 due to the delay in the Government's establishment of a task with the Wallops Institutional Services contractor to support the WIIMS interface software development. By the date above, the contractor shall demonstrate required performance by producing accurate reporting products as defined in SOW Section 3.1.5.

By the end of this task's period of performance, all ROC Maximo® asset management functionality including configuration management, maintenance management, and property management shall be fully functional for all work control management in accordance with Section 3 in the SOW.

Below is the Mission Set for the missions to be supported along with the currently slated flight/launch/test date. Note that missions have multiple dates indicating they are occurring multiple times within the six month period and may change during the six-month period based on the uncertain nature of the launch range environment.

## Mission Set

**National Weather Service Balloon Soundings (daily operations) at Wallops**
The contractor shall release balloons from Wallops twice daily and acquire data and forward to National Weather Service. Balloons are launched every day at 0000Z and 1200Z.

**STS Flight Readiness Data Flows and Launch/On Orbit Supports from Wallops**
STS-134 – April 13, 2011 – May 4, 2011
STS-135 – June 22, 2011 – July 12, 2011

**Soyuz Launch Supports from Wallops (all 2011)**
March 29
May 30

**Unmanned Aircraft System (UAS) Missions at Wallops**
March – April 2011

**Navy High Performance Aircraft Missions at Wallops**
Average 6 days per week, each week.

**Operationally Responsive Space Minotaur 1 Launch from Wallops**
Launch Window: May 20, 2011 – June 2, 2011

**Sounding Rocket Launches from Wallops**
Late April 2011 – Terrier Improved Malemute
Late May 2011 – USLI rocket
Late May 2011 – Rock On Project
Late June 2011 – 4 Launches for Dr. Pfaff
Mid August 2011 – RockSat-X Launch

**Norway Sounding Rocket Campaign**
Mission planning for 2011 Campaign.

## Task Implementation Plan/Range Instrumentation Project Plans

A general Task Implementation Plan (TIP) shall be the formal response to Task Order #03 defining any technical or management approach changes as compared to the approach implemented on Task Order #01.

The TIP and Cost Proposal shall detail how the Task Order requirements will be implemented in support of the mission requirements in this Task Order for six months and clearly define any additional general service provision risks, not already identified in Task Order #01, associated with the operations schedule and mission requirements. These additional risks would be as a result of lessons learned from Task Order #01 and/or as a result of new mission requirements associated uniquely with Task Order #03.

The TIP shall include any optional approaches based on cost, risk, and other factors, as a result of the new mission set defined in Task Order #03.

The list of required systems, reports, plans, procedures, and other deliverables in support of the Task Order requirements is included in the table below. These deliverables are further detailed in the SOW to provide information related to content and purpose.

The deliverables below include an approved Configuration Management System, Range Operations Management System, and a Digital Image Database System (not due for operation until the end of Task Order #03 but progress review shall occur at the beginning TO #03) with details of the system requirements found in the SOW sections defined in the table. In addition, the table below defines the delivery schedule, the delivery format (if needed), and to whom it is delivered.

# TO #03 Deliverables

| Deliverable | SOW Section | Schedule/Due | Deliver To | Format | Notes |
|---|---|---|---|---|---|
| Range Readiness Review Package including Instrumentation Support Brief | 3.1.1 | For Every Mission | NASA PM | MSPowPnt | Mission Schedule Driven |
| Weekly Activity Report | 3.1.2 | Weekly | COTR | MSWord | Noon on Thursdays |
| Monthly Status Report and Data | 3.1.3 | Monthly | COTR | MSPowPnt | By 2nd of each Month |
| Post Mission Services Report | 3.1.4 | Two weeks post mission | COTR | MSWord | |
| WIIMS Reporting Products | 3.1.5 | 3 months after TO start | CO | Varies | Approved by CO |
| Configuration Management System | 3.3 | 3 months after TO start | Online | TBD | Approved by COTR |
| Range Operations Management Sys | 4 | 6 months after TO start | Online | TBD | Approved by COTR |
| Wallops Daily Range Operations Schedule | 4 | Daily | Online | TBD | Email notification |
| Discrepancy Reports (DR) | 4 | Event Driven | Online | TBD | CM Process |
| Project Support Plans | 4.1 | Per Project Schedule | COTR | MSWord | Online Delivery |
| Preventative Maintenance Procedures | 5 | Upon Request | COTR | MSWord | |
| Preventative Maintenance Data | 5 | Upon Request | COTR | MSWord | Results of PM's |
| Mission Quick Look Data | 8 | One hour after mission | NASA PM | Varies | |
| Digital Image Database System | 10 | 9 months after start | Online | TBD | Occurs in TO1 extension |
| Monthly Control Tower Report | 13 | Monthly | COTR | MSWord | By 10th of each month |

# Task Order 05
# NNG10WA14C
# Range Operations Contract

I. **MISSION TASK NAME:** Operations and Engineering Support of 5000.2/7000 Series Stage Test, A-ONE, and ORB-D1

II. **DATE OF TASK REQUEST:** 24 May 2012

III. **TYPE OF TASK:** Cost Plus Award Fee

IV. **BACKGROUND**: The Range Operations Contract (ROC) provides support services including maintenance and operation of range instrumentation systems, air traffic management, and range technology engineering. The Contractor performs sustaining engineering, logistics, facilities management, and hardware and software engineering in support of the Wallops Research Range. The Contractor supports the NASA Goddard Space Flight Center's (GSFC's) Wallops Flight Facility (WFF) by providing range operations services for the purpose of meeting NASA and NASA's customers' mission requirements.

V. **SERVICES REQUESTED:** This Task Order is to provide qualified personnel, equipment, tools, materials, supervision, and other services to meet the Antares requirements as specified in the SOW and mission specific requirements documents. The Taurus II/Cygnus Program Requirements Document for Wallops Flight Facility (WFF) dated May 10, 2011 is provided for reference.

To meet these requirements, this Task Order is to provide range systems operations; engineering services; command, control, air traffic, communications, aircraft fueling, wide area network communications services, information and computer systems operations; testing, modifying and installing communications and electronic systems, and launch control centers and test facilities for Antares launch system development and launch operations. All performance metrics defined in the SOW are required to be met.

Range operations instrumentation systems permanently located at Wallops Flight Facility (WFF) and mobile instrumentation deployed to remote locations at Coquina, North Carolina and Coopers Island, Bermuda is anticipated to meet requirements defined in this Task Order.

A Task Implementation Plan (TIP) shall be the formal response to Task Order #05 defining how the contractor will meet the requirements set forth in this task order. As stated in the ROC SOW, a Project Support Plan (PSP) for each major milestone defined and shall be provided in advance of the milestone on a schedule

based on existing project management processes implemented by the ROC contract's Range Services Management Office.

The TIP and Cost Proposal shall detail how the Task Order requirements will be implemented in support of the requirements referenced in this Task Order for the task period of performance and clearly define general service provision risks associated with the operations schedule and mission requirements and other ROC Task Order commitments.

The TIP shall reference established ROC developed processes to be utilized to ensure details of mission support implementation approaches required including; management, engineering, and logistics services, for comprehensive range services will be provided for the entire task period of performance. The TIP shall define the how the contractors approach will be communicated using established processes to manage and control requirements from the identification phase to the implementation phase.

The TIP shall define how staffing approaches with mitigations as necessary (including subtask leads, roles and responsibilities, reporting structure, and formal reporting process), and deployment plans and dependencies for required off-site operations locations will be communicated using established processes. Of special note are risks associated with support requirements defined in other approved ROC task orders.

The list of required systems, reports, plans, procedures, and other deliverables in support of the Task Order requirements is included in the table below. These deliverables are further detailed in the SOW to provide information related to content and purpose.

| Deliverable | Deliver To | Notes |
|---|---|---|
| Antares 5000.2/7000 Series Stage Test Project Support Plan | NASA PM | Do Not Bid: Completed as part of ROC Task Order 2 |
| Antares 5000.2 Series Stage Test Instrumentation Support Brief | NASA PM | Do Not Bid: Completed as part of ROC Task Order 2 |
| Antares 5000.2 Series Stage Test Instrumentation section of Range Readiness Review presentation package | NASA PM | Presentation required |
| Antares 5000.2 Series Stage Test Post Mission Summary Report | NASA PM | |
| Antares 7000 Series Stage Test Instrumentation Support Brief | NASA PM | Presentation required |
| Antares 7000 Series Stage Test Instrumentation section of Range Readiness Review presentation package | NASA PM | Presentation required |
| Antares 7000 Series Stage Test Green Card Exercise | N/A | |
| Antares 7000 Series Stage Test Countdown Dress Rehearsal | N/A | |
| Antares 7000 Series Stage Test | N/A | |

| | | |
|---|---|---|
| Static Fire Operation | | |
| Antares 7000 Series Stage Test<br>Post Mission Summary Report | NASA PM | |
| A-ONE<br>Project Support Plan | NASA PM | Do Not Bid: Completed as part of ROC Task Order 2 |
| A-ONE<br>Instrumentation Support Brief | NASA PM | Do Not Bid: Completed as part of ROC Task Order 2 |
| A-ONE<br>Instrumentation section of Range Readiness Review presentation package | NASA PM | Presentation required |
| A-ONE<br>Green Card Exercise | N/A | |
| A-ONE<br>Countdown Dress Rehearsal | N/A | |
| A-ONE<br>Instrumentation section of Launch Readiness Review presentation package | NASA PM | Presentation required |
| A-ONE<br>L-1 Flight Termination System End-to-End Test | N/A | |
| A-ONE<br>Launch Operations | N/A | 1 Launch Day with 9 back-up attempts |
| A-ONE<br>Mission Quick Look Data | NASA PM | |
| A-ONE<br>Post Mission Summary Report | NASA PM | |
| ORB-D1<br>Project Support Plan | NASA PM | |
| ORB-D1<br>Instrumentation Support Brief | NASA PM | Presentation required |
| ORB-D1<br>Instrumentation section of Range Readiness Review presentation package | NASA PM | Presentation required |
| ORB-D1<br>Green Card Exercise | N/A | |
| ORB-D1<br>Countdown Dress Rehearsal | N/A | |
| ORB-D1<br>Instrumentation section of Launch Readiness Review presentation package | NASA PM | Presentation required |
| ORB-D1<br>L-1 Flight Termination System End-to-End Test | N/A | |
| ORB-D1<br>Launch Operations | N/A | 1 Launch Day with 9 back-up attempts |
| ORB-D1<br>Mission Quick Look Data | NASA PM | |
| ORB-D1<br>Post Mission Summary Report | NASA PM | |

VI. **SCHEDULE:** Below is the high level test/launch milestone dates. Additional supporting milestones for the below activities can be found in mission specific requirements documents.

1. Antares 5000.2 Series Stage Test – July 2012
2. Antares 7000 Series Stage Test – August 2012
3. A-ONE Demonstration Launch – October 2012
4. ORB-D1 ISS Cygnus Launch – December 2012

VII. **DOES THIS TASK REVISE, AMEND, OR REPLACE AN EXISTING TASK? (IF YES,PROVIDE DETAILS): No**

**VIII. SIGNATURES:**

_____
Task Initiator

_____
COTR

_____
Contracting Officer

# Task Order 05
# Revision A
# NNG10WA14C
# Range Operations Contract

I. **MISSION TASK NAME:** Operations and Engineering Support of 5000.2/7000 Series Stage Test, A-ONE, and ORB-D1

II. **DATE OF TASK REVISION REQUEST:** 10 January 2013

III. **TYPE OF TASK:** Operations Services, Cost Plus Award Fee IDIQ

IV. **BACKGROUND**: The Range Operations Contract (ROC) provides support services including maintenance and operation of range instrumentation systems, air traffic management, and range technology engineering. The Contractor performs sustaining engineering, logistics, facilities management, and hardware and software engineering in support of the Wallops Research Range. The Contractor supports the NASA Goddard Space Flight Center's (GSFC's) Wallops Flight Facility (WFF) by providing range operations services for the purpose of meeting NASA and NASA's customers' mission requirements.

V. **SERVICES REQUESTED:** This Task Order Revision is to continue to provide qualified personnel, equipment, tools, materials, supervision, and other services to meet the Antares requirements as specified in the SOW and mission specific requirements documents. The Taurus II/Cygnus Program Requirements Document for Wallops Flight Facility (WFF) dated May 10, 2011 has been provided for reference. Additional requirements documents and revisions to the above document have been provided to the existing contractor project management team. The period of performance of Task Order #05 is being extended to September 30, 2013 in this Task Order Revision.

To meet these requirements, this Task Order is still to provide range systems operations; engineering services; command, control, air traffic, communications, aircraft fueling, wide area network communications services, information and computer systems operations; testing, modifying and installing communications and electronic systems, and launch control centers and test facilities for Antares launch system development and launch operations. All performance metrics defined in the SOW are required to be met.

Range operations instrumentation systems permanently located at Wallops Flight Facility (WFF) and mobile instrumentation deployed to remote locations at Coquina, North Carolina and Coopers Island, Bermuda is anticipated to meet requirements defined in this Task Order.

A Task Implementation Plan (TIP) Supplement shall be provided and serve as the formal response to Task Order #05 Revision A defining any differences to the original Task Order #05 TIP concerning how the contractor will meet the requirements set forth in this task order. As stated in the ROC SOW, a Project Support Plan (PSP) for each major milestone defined shall be provided in advance of the milestone on a schedule based on existing project management processes implemented by the ROC contract's Range Services Management Office.

The TIP Supplement, including the original Task Order #05 TIP, and Cost Proposal shall detail how the Task Order requirements will be implemented in support of the requirements referenced in this Task Order for the task period of performance and clearly define general service provision risks associated with the operations schedule and mission requirements and other ROC Task Order commitments.

The TIP and TIP Supplement shall reference established ROC developed processes to be utilized to ensure details of mission support implementation approaches required including; management, engineering, and logistics services, for comprehensive range services will be provided for the entire task period of performance. The TIP and TIP Supplement shall define the how the contractors approach will be communicated using established processes to manage and control requirements from the identification phase to the implementation phase.

The TIP and TIP Supplement shall define how staffing approaches with mitigations as necessary (including subtask leads, roles and responsibilities, reporting structure, and formal reporting process), and deployment plans and dependencies for required off-site operations locations will be communicated using established processes. Of special note are risks associated with support requirements defined in other approved ROC task orders.

The list of required systems, reports, plans, procedures, and other deliverables in support of the Task Order requirements is included in the table below. These deliverables are further detailed in the SOW to provide information related to content and purpose.

| Deliverable | Deliver To | Notes |
|---|---|---|
| Antares 5000.2/7000 Series Stage Test Project Support Plan | NASA PM | Do Not Bid: Completed as part of ROC Task Order 2 |
| Antares 5000.2 Series Stage Test Instrumentation Support Brief | NASA PM | Do Not Bid: Completed as part of ROC Task Order 2 |
| Antares 5000.2 Series Stage Test Instrumentation section of Range Readiness Review presentation package | NASA PM | Completed under original Task Order #05 period of performance |
| Antares 5000.2 Series Stage Test Post Mission Summary Report | NASA PM | |
| Antares 7000 Series Stage Test Instrumentation Support Brief | NASA PM | Completed under original Task Order #05 period of performance |

| Deliverable | Deliver To | Notes |
|---|---|---|
| Antares 7000 Series Stage Test<br>Instrumentation section of Range Readiness Review presentation package | NASA PM | Completed under original Task Order #05 period of performance |
| Antares 7000 Series Stage Test<br>Green Card Exercise | N/A | Completed under original Task Order #05 period of performance |
| Antares 7000 Series Stage Test<br>Countdown Dress Rehearsal | N/A | Completed under original Task Order #05 period of performance |
| Antares 7000 Series Stage Test<br>Static Fire Operation | N/A | Depending on date of operation and Task Order Rev approval date, could be completed under original Task Order #05 period of performance |
| Antares 7000 Series Stage Test<br>Post Mission Summary Report | NASA PM | |
| A-ONE<br>Project Support Plan | NASA PM | Do Not Bid: Completed as part of ROC Task Order 2 |
| A-ONE<br>Instrumentation Support Brief | NASA PM | Do Not Bid: Completed as part of ROC Task Order 2 |
| A-ONE<br>Instrumentation section of Range Readiness Review presentation package | NASA PM | Presentation required |
| A-ONE<br>Green Card Exercise | N/A | |
| A-ONE<br>Countdown Dress Rehearsal | N/A | |
| A-ONE<br>Instrumentation section of Launch Readiness Review presentation package | NASA PM | Presentation required |
| A-ONE<br>L-1 Flight Termination System End-to-End Test | N/A | |
| A-ONE<br>Launch Operations | N/A | 1 Launch Day with 9 back-up attempts |
| A-ONE<br>Mission Quick Look Data | NASA PM | |
| A-ONE<br>Post Mission Summary Report | NASA PM | |
| ORB-D1<br>Project Support Plan | NASA PM | |
| ORB-D1<br>Instrumentation Support Brief | NASA PM | Presentation required |
| ORB-D1<br>Instrumentation section of Range Readiness Review presentation package | NASA PM | Presentation required |
| ORB-D1<br>Green Card Exercise | N/A | |
| ORB-D1<br>Countdown Dress Rehearsal | N/A | |
| ORB-D1<br>Instrumentation section of Launch Readiness Review presentation package | NASA PM | Presentation required |

| Deliverable | Deliver To | Notes |
|---|---|---|
| ORB-D1<br>L-1 Flight Termination System End-to-End Test | N/A | |
| ORB-D1<br>Launch Operations | N/A | 1 Launch Day with 9 back-up attempts |
| ORB-D1<br>Mission Quick Look Data | NASA PM | |
| ORB-D1<br>Post Mission Summary Report | NASA PM | |

VI. **SCHEDULE:** Below is the high level test/launch milestone dates. Additional supporting milestones for the below activities can be found in mission specific requirements documents.

1. Antares 5000.2 Series Stage Test – December 2012 - January 2013
2. Antares 7000 Series Stage Test – January – February 2013
3. A-ONE Demonstration Launch – March 2013
4. ORB-D1 ISS Cygnus Launch – August 2013

VII. **DOES THIS TASK REVISE, AMEND, OR REPLACE AN EXISTING TASK? (IF YES, PROVIDE DETAILS):** Yes. Revision A to original Task Order #05 with changes defined above.

**VIII. SIGNATURES: (Provided via ROC IMS Task Order Management System)**

_____

Task Initiator

_____

COTR

_____

Contracting Officer