

**TECHNICAL WORK MAY NOT BEGIN PRIOR TO CO APPROVAL**

NASA/GODDARD SPACE FLIGHT CENTER

**REQUEST FOR TASK PLAN / TASK ORDER**

CONTRACTOR	CONTRACT NO./TASK NO.	JOB ORDER NUMBER	APPROP. FY
<b>QSS Group, Inc.</b>	NASS- <b>99124</b> TASK NO. <b>262</b> AMENDMENT	584-839-06-51-89	00

TASK TITLE: (NTE 80 characters; include Project name)  
**System Engineering for NEXUS/NGST Ground System**

APPROVALS: (Type or print name and sign)

ASSISTANT TECHNICAL REPRESENTATIVE (OR TASK MONITOR)	DATE	ORG CODE	MAIL CODE	PHONE
Jane Steck <i>Jane A. Steck</i>	4/11/00	584	584	301-286-6985
BRANCH HEAD	DATE	CODE		PHONE
Barbara Pfarr <i>B. B. Pfarr</i>	4-11-00	584	584	301-286-2058
CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR)	DATE	CODE		PHONE
Robert S. Lebair, Jr. <i>Robert S. Lebair, Jr.</i>	4/11/00	560		301-286-6588

FLIGHT HARDWARE, CRITICAL GSE OR SOFTWARE? <small>(IF YES, NEED CODE 303 CONCURRENCE NEXT BLOCK)</small>	CONTRACTING OFFICER'S QUALITY REP.	DESIGNATED FAM:
<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES		

The contractor shall identify and explain the reason for any deviations, exceptions, or conditional assumptions taken with respect to this Task Order or to any of the technical requirements of the Task Order Statement of Work and related specifications. The contractor shall complete and submit the required Reps and Certs.

*(To be completed by Contracting Officer)*  
**C.O. Requested Quote on:**  
**Date:**

Contractor will develop specification or statement of work under this task for a future procurement.	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
Flight hardware will be shipped to GSFC for testing prior to final delivery.	<input type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> N/A
Government Furnished Property/Facilities:	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES - SEE LIST OF GFP (offsite only) / FACILITIES (onsite only)
Onsite Performance:	<input type="checkbox"/> NO <input checked="" type="checkbox"/> YES    If yes: <input type="checkbox"/> TOTAL <input checked="" type="checkbox"/> PARTIAL <small>If partial, indicate onsite work in SOW by asterisk (*)</small>
Surveillance Plan Attached:	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
Highlighted Contract Clauses:	<i>(to be completed by Contracting Officer)</i>

The effective date of this task order is the same as the date of the Contracting Officer's signature below.

**INCENTIVE FEE STRUCTURE** (check one)  
(See Contract NASS-99124, Attachment K, Incentive Fee Plan)

	<input checked="" type="checkbox"/> No. 1	<input type="checkbox"/> No. 2	<input type="checkbox"/> No. 3	<input type="checkbox"/> No. 4	<input type="checkbox"/> No. 5
Cost	10%	50%	25%	25%	%
Schedule	15%	25%	25%	50%	%
Technical	75%	25%	50%	25%	%

*(To be completed by Contracting Officer)*

The target cost of this task order is \$ 11,804.

The target fee of this task order is \$ 756.

The total target cost and target fee of this task order as contemplated by the Incentive Fee clause of this contract is \$ 12,560.

The maximum fee is \$ 1106.

The minimum fee is \$0.

AUTHORIZED SIGNATURE:	<b>ELIZABETH J. AUSTIN</b> CONTRACTING OFFICER
<i>Elizabeth J. Austin</i>	
SIGNATURE OF CONTRACTING OFFICER	TYPED NAME OF CONTRACTING OFFICER
DATE	
5/2/00	

CONTRACTOR'S ACCEPTANCE:	
AUTHORIZED SIGNATURE	DATE

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QSS Group, Inc.	NAS5- 99124	262	

Applicable paragraphs from contract Statement of Work:

**STATEMENT OF WORK:** (Continue on blank paper if additional space is required)

See page 3.

**PERFORMANCE SPECIFICATIONS:**

See page 4.

**APPLICABLE DOCUMENTS:**

None.

**TASK END DATE:** 7/31/2000

**MILESTONES/DELIVERABLES AND DATES:**

See page 5.

**PERFORMANCE STANDARDS:**

**Schedule:** On-time delivery/completion of the deliverables/milestones

**Technical:** ATR's acceptance of the deliverables

**FINAL DELIVERY DESTINATION (NAME, BLDG, ROOM):**

Jane Steck, building 23, room W201

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Task #: **262****STATEMENT OF WORK****Task Description:**

The contractor shall perform the following activities: (\* indicates on-site performance)

1. Participate in an initial study with Code 582, Code 584, NGST Project and Science Institute personnel to identify and clarify key capabilities for the I&T and ground control systems for both the NEXUS and NGST missions.
  - Performance of this study will include at least:
    - \*Development of GOTS/COTS evaluation criteria
    - \*Interviews and demonstrations with COTS/GOTS providers and completion of evaluation questions
    - Analysis of existing mission concepts
    - Review of preliminary architectures proposed for NEXUS and NGST
    - Review of operational concept documents for NEXUS and NGST
    - \*Meetings with other team members and other operational working groups
  - Preliminary data will be assembled from:
    - Vendor and non-vendor documents and specifications
    - \*Current customer/user interviews on COTS and GOTS Real-Time C&DH products
    - Existing analyses and trade studies
2. \*Participate in a detailed analysis of at least 3 contemporary I&T/ground control systems. This analysis will:
  - Focus on each mission's commonality with the NEXUS/NGST mission requirements and operational scenarios
  - Determine specific successes and difficulties with the COTS/GOTS products encountered on these missions.
3. \*Participate in the definition of preliminary key requirements (or "mission drivers") for both NEXUS and NGST to support their respective spacecraft I&T and final ground systems.
4. One contractor employee may be required to travel to Boulder, Colorado for approximately 2 days during the contract period. The trip will be to a Department of Defense installation for a demonstration and review of a real-time command and data handling system. This system is used by the U.S. Air Force.

In order to perform these activities, the contractor shall work cooperatively with civil servants supporting this work, as well as with other contractors to ensure complementary and non-duplicative achievement of goals.

The GSFC Code 584 Real-Time Software Engineering Lab (Building 23, Room E120) is available for technology prototyping, evaluation and demonstration.

The contractor shall deliver at a minimum a Study Report resulting from the above-described activities. Other deliverables may be mutually determined as the result of these activities.

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Task #: **262****PERFORMANCE SPECIFICATIONS**

The Study Report shall include the following contents at a minimum:

1. Introduction, Scope and a Summary of analysis activities.
2. Spread sheet of all COTS/GOTS products identified including at least:
  - Contact information
  - Summary of capabilities
  - Advantages and disadvantages identified to date
  - List of outstanding questions and issues for each product
3. Summary evaluations of single or multiple COTS/GOTS product constellations
4. Summary of:
  - Key NEXUS/NGST capabilities
  - Requirements and "drivers" identified in the study, which will be used to guide subsequent analysis and a comprehensive set of NEXUS/NGST ground system requirements
5. Reference list of NGST and other documents related to:
  - Requirements analysis and design of the ground systems
  - Operational scenarios
  - Flight software requirements and design for NGST, etc.
6. Glossary

**Qualitative and Quantitative Performance Metrics:**

The following lists both quantitative and qualitative metrics that will be used to measure the technical performance of all of the activities described in this SOW. Qualitative metrics are used where performance is event-driven and relies on interaction with the user community, coordination with others, and other associated factors.

Evaluation Item	Metrics
Management	<ul style="list-style-type: none"> <li>• Accomplishment of objectives</li> <li>• Clear, incremental progress</li> <li>• Responsiveness to issues</li> <li>• Coordination with and good working relationship with task lead, the Science Institute and other designated points of contact within the project</li> <li>• Successful verbal and written communications with other teams with varied technical points of view</li> <li>• Flexibility within scope of the contract</li> <li>• Schedule adherence</li> </ul>
Technical Objectives	<ul style="list-style-type: none"> <li>• Use of recent and relevant NASA/GSFC, Science Institute and other project mission data</li> </ul>
Deliverables	<ul style="list-style-type: none"> <li>• Technical accuracy</li> <li>• Use of graphics and/or tables to illustrate point</li> <li>• Clear/concise message</li> </ul>
Costs	<ul style="list-style-type: none"> <li>• Within 115% of target cost</li> </ul>

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Task #: **262**

**MILESTONES/DELIVERABLES AND DATES:**

Milestone	Delivery / Completion Date
NEXUS/NGST Document Review	5/31/00
Identification of Candidate COTS / GOTS Software	5/15/00
Ground System Interviews Complete	<del>6/15/00</del> 6/22/00
Draft of Study Report	<del>6/30/00</del> 7/7/00
Final Study Report	7/31/00
Technical Progress Report	15 <sup>th</sup> of each month
Trip Report (if applicable)	Due 3 working days after returning from trip