

AMENDMENT OF SOLICITATION / MODIFICATION OF CONTRACT				1. Contract ID Code	PAGE 1 OF 1
2. Amendment/Modification No. 0002		3. EFFECTIVE DATE 17 APR 02	4. REQUISITION / PURCHASE REQUEST N66001-2030-62101		5. Project No. (if applicable)
6. ISSUED BY CONTRACTING OFFICER, SPAWARSYSCEN BLDG A33 ROOM 1602W, D212 53560 HULL STREET SAN DIEGO, CA 92152-5000 JACK FAULKNER (619)553-4503 email: jfaulk@spawar.navy.mil		CODE N66001	7. ADMINISTERED BY (If other than Item 6)		CODE N66001
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, state and ZIP + 4 Code)				(X) 9a. Amendment of Solicitation No.	
				9b. Dated (See Item 11)	
				X 10a. Modification of Contract / Order No. N66001-02-R-5999 /	
				10b. Dated (See Item 11) 22 MAR 02	
CAGE CODE		CEC (facility) CODE			
11. THIS ITEM APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS					
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers [<input checked="" type="checkbox"/>] is extended, [] is not extended. <i>Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:</i> (a) By completing Items 8 and 15, and returning <u>1</u> copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.					
12. ACCOUNTING AND APPROPRIATION DATA (If required)					
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.					
(X) A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.					
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).					
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:					
X D. OTHER (Specify type of modification and authority)					
E. IMPORTANT: Contractor <input type="checkbox"/> Is Not, <input checked="" type="checkbox"/> Is required to sign this document and return 1 copies to the issuing office.					
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)					
The solicitation is revised as follows: 1) In Clause H901 delete "or shall provide a point of destination for the return of a failed LRU." 2) Attachment 3 to the solicitation is deleted and replaced with the attached Attachment 3. 3) The date and time for the receipt of proposals has been extended to 22 May 2002 at 3:00 PDT. 4) The attached questions and answers and its attachments are for informational purposes only and are not changes to the solicitation. All other solicitation provisions remain unchanged.					
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.					
15A. NAME AND TITLE OF SIGNER (Type or print)			16A. NAME OF CONTRACTING OFFICER (Type or print) SHARON M. PRITCHARD <i>SP</i>		
15B. NAME OF CONTRACTOR BY _____ (Signature of person authorized to sign)		15C. Date Signed	16B. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)		16C. Date Signed

Attachment 3
TECHNICAL EVALUATION WRITTEN PROPOSAL

Minimum Technical Requirements Criteria			
Reference	Technical Proposal Criteria	Rating: Satisfactory or Unsatisfactory	Comments
SOW	<p>Statement-of-Work Offerors shall provide a written statement verifying that they shall meet all requirements of the Statement of Work supported by a summary description of their technical ability and approach to providing the required equipment and services.</p>		
SOW 3.3 Func Spec 6.1 Func Spec 3.2.10 Func Spec 3.2.1.13	<p>INMARSAT Authorization Offerors shall provide a written declaration of conformance from INMARSAT that 1) the proposed equipment does not invalidate the existing Saturn-Bm terminal INMARSAT Type Approval, 2) the proposed equipment does not invalidate the Saturn-Bm terminal INMARSAT CN-17 Approval, 3) The proposed equipment meets all INMARSAT operational compliance requirements for non standard lease services.</p> <p>Offer shall also provide a copy of the non-standard lease service application that was submitted to INMARSAT for achieving the operation compliance for non-standard lease service.</p>		
SOW 3.4	<p>Interim Spares Support Offeror shall provide a recommended spares list that identifies each LRU that can be removed and replaced shipboard. At a minimum, the information should include: Manufactures Part Number, Item Description and Mean Time Between Failure.</p>		
SOW 3.6.1	<p>Technical Manuals Offerors shall provide Manuals for the organizational level of operation and maintenance of the system. These Manuals shall be evaluated for comprehensiveness and usability.</p>		
SOW 3.10.4	<p>Pre-planned Product Improvement Offerors shall be required to submit a technical report (10-page limit) indicating that the proposed equipment has the capability of supporting a non-channelized service by modifying the systems existing firmware and or software.</p>		
Sec H-901	<p>Equipment Warranty (Variance) Offerors shall provide a written Statement from the Saturn-Bm OEM (Nera, Norway) that their product does not invalidate the Saturn-Bm terminals and antenna handover units manufactures warranty. If the Offeror does not have an OEM endorsed statement for warranty validation, the Offeror shall provide a plan for supporting the Saturn-Bm terminal and antenna handover unit warranty. The plan shall include information on world-wide</p>		

	service support and Saturn-Bm terminal parts availability for non OEM warranty support.		
Func Spec 3.1 Func Spec 3.1.1 Func Spec 3.2.1.8	<p>System Configuration Definitions Offeror shall provide supporting documentation that clearly illustrates how 1) the proposed High Performance modem and related interface equipment are integrated with the Saturn-Bm System including both MK-I and MK-II Antenna configurations and antenna handover. As a minimum, the information should discuss signal flow and power requirements placed on the Saturn-Bm System by the High Performance Modem and related interface equipment. 2) How the proposed system configuration can be reconfigured to support 9.6kbps asynchronous data (via the MCU) on the on-demand satellite network.</p>		
Func Spec 3.2.1.13 Func Spec 3.2.1.3 SPAWAR Systems Command satellite lease services contract N00039- 02-D-2301, SOW Para 3.1.1.5 (Satellite Power)	<p>128kbps Synchronous Data Offeror shall submit technical documentation that clearly demonstrates that the proposed equipment is capable of providing reliable 128kbps in 100khz of Satellite Bandwidth.</p> <p>As a minimum, the documentation shall include modem configuration, including modulation method and Forward Error Correction scheme. A detailed link budget analysis including available margin for degradation.</p> <p>The link budget analysis shall be based on the following conditions: 1) Clear weather, 2) Earth referenced MES antenna angle of 5°, unobstructed, 3) INMARSAT F2 Satellite. 4) Earth referenced LES antenna angle of 12°, unobstructed. 5) Required BER of 10⁻⁶. 6) MES EIRP of 33dBW in the return direction. 7) Satellite EIRP of 21.9dBW in the forward direction.</p> <p>Validating test documentation shall include the test setup, test equipment configuration, block diagrams, spectral plots, test data and any other supporting information that was used to verify that spectral requirements are met and/or exceeded.</p>		
Func Spec 3.2.2.2	<p>Equipment Dimensions Offeror shall provide documentation verifying that the High Performance modem and related interface equipment are rack mountable within the volume designated.</p> <p>As a minimum, the documentation shall include a three-dimensional pictorial drawing or equivalent photograph including measurement indications.</p>		
Func Spec 3.2.1.15	<p>Automatic Link Establishment Offeror shall submit technical documentation that clearly demonstrates that the proposed equipment is capable of supporting the HotLine signaling</p>		

	function on the Saturn-Bm terminal.		
--	-------------------------------------	--	--

Response to Questions to RFP N66001-02-R-5999
Supplement to Amendment 0002
April 16, 2002

Section B

CLIN 0007 Saturn-Bm Terminal/Antenna hand-over Non-Manufactures Warranty IAW Section H

1. Q. For the provision of the “supplemental non-manufactures warranty”, offeror understands the requirement to replace items under warranty. What does the current USN warranty agreement specify as to the type of replacement components, assuming LRU level, that are acceptable for Nera B terminals still under warranty? Replace with new?

A. Yes.

Q. Replace with factory authorized refurbished?

A. Yes, the OEM determines which LRU’s can be refurbished with new components.

Q. Replace as necessary to make functional?

A. Yes.

Q. What is the status of warranty after replacement? Warranty limited to balance of time remaining under original 24 months?

A. Yes.

Q. Other?

A. See previous answer.

Section H

H – 901 NON-MANUFACTURERS WARRANTY

2) Q. The Navy indicates that, “The contractor shall provide warranty maintenance support on-board ship or shall provide a point of destination for the return of failed LRUs.” Where contractor offers the “point of destination option for return” does the Navy have the option to require “...warranty maintenance support on-board ship...”?

A. The contractor shall provide warranty maintenance support on-board ship. Section H-901, the manufacturers, non-manufacturers, and supplemental warranty have been amended. The words “or shall provide a point of destination for the return of a failed LRU” have been removed. See Amendment 0002.

3) Q. Where the contractor can supply both options, it is our understanding that “maintenance support on-board ship” service, when requested, is funded by the Navy. Should the offeror use the existing Time and Materials schedule in Section B, supply a Time and Materials schedule specifically for Nera B warranty work, or will the Navy provide a predetermined schedule as used in the existing contract from which to set the rates to be charged?

Response to Questions to RFP N66001-02-R-5999
Supplement to Amendment 0002
April 16, 2002

A. Please refer to Question 15, Amendment 0001, for information on current warranty support. The Navy only funds Travel costs and associated labor if the warranty support is outside the radius of support covered under the current warranty.

4) Q. The offeror will accept the burden of warranty for Nera Saturn B terminals equipped with High Performance Modem and related interface equipment. For the acceptance of that responsibility, when the terminal is out of warranty, will the offeror continue to be given the responsibility for all future repair and maintenance service for the Nera Saturn B systems that have been equipped with the High Performance Modem and related interface equipment? That is, will the maintenance function shift from the current provider to the offeror?

A. No.

5) Q. Since no T&M Schedule has been formally proposed for warranty support, would labor incurred under H-901, if subcontracted, be counted in calculations for compliance with FAR 52.219-14 Limitations on Subcontracting?

A. All subcontracting effort shall be subject to the subject clause.

Section M

6) Q. ICTI understands that bidders must achieve a satisfactory rating for all of the requirements in Attachment 3, however, for those requirements in Attachment 1 that are not included in Attachment 3, it is not clear how the government will assign an overall satisfactory or unsatisfactory rating for technical capability. Can the government provide numerical weighting criteria and minimum rating value for the requirements of Attachment 1 not included in Attachment 3 that will result in an overall satisfactory rating for technical capability?

A. Attachment 3, Technical Proposal Criteria, Statement-of-Work block requires that the Offerors shall provide a written statement verifying that the offeror shall meet all requirements of the Statement of Work (SOW) supported by a summary description of their technical ability and approach to providing the required equipment and services. Statement-of-Work and Functional Specification that is referenced as part of the SOW comprises Attachment 1. Evaluations are based on either satisfactory or unsatisfactory ratings.

7) Q. Recognizing our previous question regarding the copy of a lease authorization, and our assertion that it is not required, if the government does required a copy of a lease authorization with the proposal. Does the page count for the copy of the authorization get included in the 60-page limitation?

A. No.

Response to Questions to RFP N66001-02-R-5999
Supplement to Amendment 0002
April 16, 2002

Section L

8) Q. SPAWAR describes specific formatting for the proposal, including a preference for choice of paper to be used. Section L-349 specifies the proposal shall be submitted electronically. Is SPAWAR asking for both a paper hard copy and electronic submission via the SPAWAR E-Commerce site (including diskette, etc as specified)?

A.. Yes.

Attachment 5

9) Q. Does SPAWAR wish to have resumes submitted as part of Vol II relating to position descriptions?

A. No.

Attachment 3

10) Q. A lease authorization was not used during the recently completed Inmarsat organized testing to ensure CN 17 and Type Approval compliance. The testing, located at Stratos' Goonhilly LES, was conducted "off-air". To obtain an Inmarsat declaration of conformance, what "lease application that was submitted to INMARSAT for achieving the operation compliance for non-standard lease services" does the government expect to be provided?

A. The primary purpose of this contract is to procure INMARSAT compliant hardware that is authorized for non-standard lease service defined in SPAWAR Systems Command INMARSAT lease services contract N00039-02-D-2301. In order to validate that the offeror's proposed equipment meets INMARSAT's operational compliance requirements for enhanced 128kbps and enhanced 64kbps non-standard lease services , the government is requiring a copy of the lease service application in support of the RFP hardware requirements, as well as authorization itself.

For the Offerors convenience, the following guidance is providing in respect to lease service applications.

- 1.) A brief note clarifying INMARSAT Lease authorization requirements is attached to this memorandum for your information.
- 2.) A copy of the INMARSAT Standard Form of Application for Leased Space Segment is attached to this memorandum for your information.
- 3.) Government notes regarding INMARSAT Standard Form of Application for Leased Space Segment:

Response to Questions to RFP N66001-02-R-5999

Supplement to Amendment 0002

April 16, 2002

- a. A brief description of non-standard lease services proposed must include at a minimum a description of the U.S. Navy service requirements including 128kbps in 100kHz and 64kbps in 50kHz. In the latter case, two 64kbps carriers are operated in 100kHz of contiguous bandwidth. Please indicate any required notional frequency plans such as requirements for operating the 128kbps enhanced service in contiguous 100kHz channels or that the 128kbps enhanced service operating in contiguous bandwidth must be bracketed with standard 64kbps lease channels.
- b. Questions relating to guaranteed space segment reservation or first right of refusal reservation or information pertaining to number of channels per ocean region and time period of leases can be addressed by the following statement: "In support of U.S. Navy contract requirements for non-standard lease service".
- c. In effort to ensure a timely INMARSAT response, specific questions relating to each section of the application should be addressed to Stratos Mobile Networks and INMARSAT .

11) Q. Since this is a "minimum" requirement (attachment 3) and since it is not possible to provide a lease application for that test event, what comparable documentation would the government find acceptable; a previously submitted lease applications, or a lease application based on the testing Inmarsat conducted?

A. To reiterate, the government is requiring a copy of the lease service application that supports the RFP requirements for supporting 128kbps and enhanced 64kbps non-standard lease services.

Section L

12) Q. Based on gov't provided responses to questions 30, 31, 48 in Amendment 0001, in particularly the response to question 31, it appears that the requirement to provide a separate page for each paragraph and sub-paragraph has been deleted. Is this correct?

A. Yes.

13) Q. Please confirm that this compliance matrix requires a specific entry for each numbered paragraph in Attachment 1 (a total of 83 numbered paragraphs with text in SOW, Attachment A, Attachment B, Function Spec) rather than the minimum requirements specified in Attachment 3.

A. Yes.

14) Q. Is Descriptive literature as specified in L-322-1 to be included within the 60-page limitation?

Response to Questions to RFP N66001-02-R-5999

Supplement to Amendment 0002

April 16, 2002

A. No.

Section M

Attachment 4

15) Q. Is the EMCON Switch GFE, as referenced in PHASE I System Interoperability Required Saturn-Bm Terminal Functions?

A. The Emission Control (EMCON) switch is integrated part of the Saturn-Bm Main Control Unit (MCU). For the purpose of the demonstration. The MCUs are to be provided by the Offeror as stated in the Material list in attachment 4.

16) Q. Has the government, directly or via the current airtime contract holder Stratos, approached Inmarsat with questions or recommendations, in response to Inmarsat's "preliminary comments" (Q&A# 11), for change(s) to the operation of the lease satellite constellation that might materially affect offeror's advanced modem demonstration?

A. No.

17) Q. Has the government undertaken or proposed any modifications to the Nera Saturn B terminal that could materially change the operation and performance of advanced modem demonstration?

A. No.

18) Q. In Q&A section of SPAWAR Amendment 0001, answers to previous questions regarding warranty, specifically #15, in Attachment 2, the radius of service is listed as 50 miles. In Attachment 3, the copy of the Nera guarantee, the radius is listed as 40 kilometers. Which is the correct figure?

A. 40 kilometers.

19) Q. In Attachment 2, the current terminal warranty specifications under H-900 (a) maintenance support is provided during the "principle period"; nine (9) hours per day Monday – Fri and nine (9) hours Sat, Sun and Holidays. Please confirm that the nine (9) hours refers to technician availability during a workday; e.g. 8am to 5PM. What does the nine (9) hours mean for the Sat, Sun Holidays? Is it a different availability standard than weekdays?

A. No.

20) Q. Per Attachment 2, H-900 (a), who is authorized to request maintenance to be performed "outside the principle period of maintenance?"

A. Amendment 1, Q&A Attachment 2 was provided for informational purposes only and is not part of the instant solicitation.

21) Q. What is OCOMP, under Amendment 1, Q&A Attachment 2 and what is (are) the hourly maintenance rate(s)?

A. The subject attachment was provided for informational purposes only. Such information may be proprietary in nature. Such information can be sought under the

Response to Questions to RFP N66001-02-R-5999

Supplement to Amendment 0002

April 16, 2002

Freedom of Information Act. Such information cannot be provided in response to a question under this solicitation

22) Q. The wording of the warranty requirements for the pending advanced modem solicitation (H-901) as well as the currently awarded Nera B contract seem to indicate that the warranty responsibility is limited to "...provide a point of destination for the return of a failed Lowest Replaceable Unit (LRU)". Is that correct?

A. Warranty requirements are delineated in section H-901 for the current solicitation. Please see response to question 2.

23) Q. Since no extended warranties have been ordered, will the government wait to exercise any extended warranty options until after the solicitation is awarded?

A. No.

24) Q. Will the government seek to exercise an extended warranty (at the price currently quoted under contract N66001-01-D-5024) from the winner of the N66001-02-R-5999 solicitation?

A. Extended warranties orders are based on customer requirements at time of order.

25) Q. What is the price at which extended warranty was offered under contract N66001-01-D-5024?

A. Such information may be proprietary in nature. Such information can be sought under the Freedom of Information Act. Such information cannot be provided in response to a question under this solicitation

26) Q. Q&A #41- Amendment 0001: SPAWAR indicates the AHU has passed initial government testing. How and when will the government communicate the time of acceptance, conditions of acceptable performance, and warranty responsibility in order to determine warranty parameters?

A. As stated in the section H-901 Equipment Warranty of the solicitation, Government acceptance shall be defined as the time of equipment installation, immediately after the manufactures representative has validated the system warranty. Assuming the successful Offeror cannot provide a written statement from the antenna hand over unit OEM that their product does not invalidate the antenna hand over unit's manufactures warranty, the Government shall provide a list of antenna hand over units, associated hull numbers and ship names as well as warranty expiration date. As the new units are installed in conjunction with the High performance modem and related interface equipment, the list shall be updated and forwarded to the successful offeror.

27) Q. Q&A #44 – Amendment 0001: The government states that Antenna Handover Unit (AHU) is included in the Nera Saturn B warranty. Q&A Attachment 3 does not describe AHU is included in warranty. In Saturn B literature, AHU is listed as an option. Is the AHU considered ancillary equipment?

A. No. Attachment 3, Technical Evaluation to the written proposal, Warranty Equipment Variance Block has been amended. The words "antenna handover units" have been inserted. See Amendment 0002.

Response to Questions to RFP N66001-02-R-5999

Supplement to Amendment 0002

April 16, 2002

General – Section M

28) Q. Nera Saturn B terminal operation with external modem requires V 7.12 software and an associated opening code for the external modem feature. Has the Navy purchased the V 7.12 External Modem feature as a component of the recently awarded Saturn B procurement N66001-01-D-5024?

A. No.

Section H

29) Q. In response to questions on warranty, e.g. # 15, SPAWAR provided a list of expectations and included the text of Sole Source 5024 Section H-900 and the Nera commercial guarantee, Attachments 2 & 3. In N66001-01-D-5024, H-900 is titled Equipment Warranty. In Sol N66001-02-R-5999, H-900 is titled Standard Commercial Warranty. In Sol N66001-02-R-5999 H-901 is titled Equipment Warranty. Between all cited references, there seem to be a variety of requirements, warranty options and government expectations; such as "...contractor shall provide warranty maintenance support on-board ship or shall provide a point of destination for the return of a failed LRUs." 5999 H-901: MANUFACTURERS WARRANTY-- HIGH PERFORMANCE MODEM & RELATED INTERFACE EQUIPMENT. In the warranty for N66001-01-D-5024 and the responses in Amendment 0001- Question #15, there seems to be an expectation for a level of service; e.g. "...within 50M (40Km?) of authorized service center, ..72 hr response time is achieved." What is the governing warranty requirement, for Non-Manufacturer Warranty of Nera B and the Advanced Modem, that results in a satisfactory evaluation of offeror's proposal?

A. See answer to question 2. The prospective offeror shall be evaluated in accordance with the Equipment Warranty (variance) block in attachment 3, Technical Evaluation to the written proposal.

30) Q. Are there different grades to be assigned to warranty proposals that are based on the various requirements, warranty options and government expectations?

A. No, see Attachment 3 of the solicitation for evaluation criteria and procedures.

31) Q. There are today no antenna handover units installed on US navy operational Saturn Bm terminals. Does the Navy intend to install the AHU on existing Saturn Bm terminals or only new purchases?

A. Yes, the possibility exists that the antenna hand-over unit will be installed with new terminal installations and on existing terminal installation.

32) Q. For installation of AHUs on existing terminals with less than 2 years left under warranty, what warranty does the government intend to seek from Nera?

A. The Antenna Hand-over unit is covered by a two-year warranty that is independent of the Saturn-Bm terminal warranty.

Response to Questions to RFP N66001-02-R-5999

Supplement to Amendment 0002

April 16, 2002

SOW

33) Q. SPAWAR references NSTS 9090.310C under 2.2 Specifications and Standards. 9090.310C provides specific instructions for AIT processes in the installation of new equipment. This process includes submission of drawings and a host of additional activities. Will SPAWAR require contractor participation in that process? If so, will that participation be funded using CLINs 0018 and 0019 (and corresponding Option year CLINs)?

A. Yes, this is an option. Yes, they shall be funded through the use of the subject CLINS..

Functional Specification 3.2.1.13

34) Q. SPAWAR references Contract N00039-02-D-2301 SOW Para 3.1.1.5 (Satellite Power). Will SPAWAR provide offeror a copy of that paragraph?

A. Yes, the paragraph is provided below:

3.1.1.5 SATELLITE POWER: The contractor shall provide a satellite EIRP in the forward direction (shore to ship) of 21.9 dBW for all satellite services (as defined in Section 3.1.1.4).

35) Q. Bidders need to know the location of the Land Earth Station selected for supporting the demonstration prior to selecting a facility for the demonstration since demonstration facilities must be within the satellite coverage beam provided with the selected Land Earth Station. Due to the possibly exorbitant cost for providing all of the equipment (including purchasing and/or shipping and/or installation three complete maritime terminals as required by the government at the demonstration site) the government should identify to bidder the location of the Land Earth Station for the purpose of planning for the demonstrations which (assuming contract award date of June 12, 2002) must occur on the order of 2 to 3 weeks prior to contract award. Can the government specify the designated Land Earth Station so that bidders may be able to estimate and consider the cost of this demonstration in it's overall bid to the government?

A. Satellite: INMARSAT AOR-W Lease (98°W)
Land Earth Station: STRATOS, Laurentides LES

36) Q. Conducting of the proposed tests at a Land Earth Station rather than at an Offerer's facility would be most beneficial to the government since the output of all test equipment could be made simultaneously available to government observers, and since it would be possible to measure/monitor forward carrier transmit spectra as well as return carrier transmit spectra. In addition, if the selected Land Earth Station was already equipped with one or more Saturn B terminals that could be used for the demonstration, the government could significantly reduce the cost burden to bidders for participating in the demonstration and could additionally eliminate test variations that would be introduced as a result of using different Saturn B terminals for each bidder. The intended purpose of the demonstration is to illustrate that the enhanced modem solution "degrade or inhibit" certain Saturn B terminal characteristics. Reducing the number of variables in the evaluation demonstration will provide a more reliable indication of the enhanced

Response to Questions to RFP N66001-02-R-5999
Supplement to Amendment 0002
April 16, 2002

modem impact to the Saturn B terminal. Will the Navy consider this modification to the test requirements?

A. No.

Pg 85 para 4.3

37) Q. When is the anticipated time frame for the Phase II Mandatory Demonstration?

A. Assuming the prospective offeror is rated satisfactory after evaluation of the written portion of the proposal, demonstrations will be scheduled as soon as practicable.

38) Q. The numerous questions and answers have resulted in delays in offerers preparations. Is it possible to extend the due date to 01 May 2002.

A. See Amendment 0002 for extension details.

Amendment 1 Question 36

39) Q. If primary LES designated is not available or ready can another LES be used for the demonstration in Attachment 4.

A. The designated LES will be made available.

Note: The following Q&A Attachments are for informational purposes only and not part of the solicitation:

Q&A1) Lease Services

Q&A2) Standard Form for Lease Space Segment

Lease Services

This is a brief note to clarify lease authorization requirements by Inmarsat.

1. A lease service is one where the LESO on behalf of a customer acquires a number of Inmarsat channels on a dedicated/sole usage basis. Naturally there are a number of commercial and technical/operational issues that have to be evaluated prior to these being permitted.
2. The application to Inmarsat for lease services should be addressed to:
Mr Paul Condon (Lease Manager)
Tel: +44-20-7728-1335
paul_condon@inmarsat.com
3. It should include as a minimum the following:
 - brief description of the lease services being proposed
 - number of channels per ocean region requested
 - time period of the lease
 - technical description of the service(s) for both the LES and the MES
 - Lease Service Application Form
4. The points shown above will allow Inmarsat to ascertain
 - a) if the requested capacity (power/bandwidth/coverage) is available
 - b) the occupied bandwidth
 - c) pricing and operating requirements for the lease authorization
5. The technical description should include details of the MES to be used, together with the lease service transmission characteristics:
 - 5.1 Mobile Earth Station Model (original equipment manufacturer)
 - 5.2 Modifications made to the MES (from that Type Approved)
 - 5.3 Regression testing applied.
 - 5.4 Type of external modem being used (if applicable)
 - 5.5 EIRP(s)
 - 5.6 Data Rate(s)
 - 5.7 Coding Type
 - 5.8 Filtering
 - 5.9 Spurious (measured at L band)
 - 5.10 Measured plots for each data rate/coding permutation requested.

All the material above shall be supplied in electronic form to:

Amendment 0007 - Q&A Attachment 1

Mr Paul Condon (Lease Manager) and
Mr Ian Cooper (Manager, Product Approvals)
Tel: +44-20-7728-1587
ian_cooper@inmarsat.com

6. The plots shall show all spectral components related to a specific modulated carrier to a minimum of -40 dBC. Multiple plots on different spans may aid in accurately determining the "occupied bandwidth" and thus keep it to a minimum.

7. The occupied bandwidth is based upon interference to the existing and evolving Inmarsat services and not between two adjacent carriers radiated by the same lease service provider. This means that the occupied bandwidth calculated by Inmarsat is often more than that declared by the lease service applicant. Naturally this may have a cost impact.

8. MES equipment:

Any MES proposed to be used exclusively for lease services, shall only be required to justify points 5.4 to 5.10 shown above (not demand assigned services).

9. Any MES that can operate in the demand assigned mode that has been Type Approved for the usage of an external modem, need only justify points 5.4 to 5.10 shown above (no modifications).

10. Any MES that has been modified from that originally Type Approved shall be re-approved prior to any lease service being permitted.

11. It is recommended where possible that the original equipment manufacturer be involved in any modification to their equipment and the re-approval process as they will be the experts on their equipment.

12. Where a third party decides to modify a Type Approved MES without the cooperation of the original equipment manufacturer, they must take complete responsibility for ensuring that the MES is regression tested in order to demonstrate that it is still compliant to the system definition manual (SDM).

13. Regression Testing:

The regression testing at a minimum shall ensure that the following are still compliant:

- Initial and subsequent EIRPs are correct in respect to that shown in the bulletin board for all channels e.g. MESRP, MESRQ, MESRR etc
- Spurious for the demand assigned services, with/without the external modem connected for all frequencies across the band.

- EIRP and G/T.
- EIRP stability and accuracy.
- Transition into/out of lease mode.
- Frequency limits.
- End to End normal on-air operation.

Note 1: Inmarsat protocol verification may require the use of an Earth Station Test Set (ESTS). Access to one of these may be obtained either at Inmarsat in London or through direct contact with and Inmarsat LESO or manufacturer.

Note 2: All Inmarsat travel costs associated with the Lease evaluation shall be the responsibility of the applicant. The applicant shall confirm acceptance of the associated travel costs prior to Inmarsat's visit and shall be invoice upon completion.

STANDARD FORM OF APPLICATION FOR LEASED SPACE SEGMENT

Where lease conforms to Inmarsat published System Definition Manuals (SDMs) describe the service details and complete **ONLY** the sections of this form as follows: (See note 2). Note that Proposals for a standard Point-to-Multipoint lease (i.e. through an Inmarsat A, B or M MES antenna) should also use **ONLY** these sections as well. For other types of lease, **ALL** information requested in the form must be provided.

SECTION 1 General

1.1 Is the application for a guaranteed reservation or a first right of refusal reservation or availability study for a possible lease service operation?

1.2 Give a description of the proposed lease (see note 1). Use different descriptions in case that services for different applications are requested. Please provide a system definition manual or any similar type of documentation. Below are some points that needed to be described in the documents provided.

- Differences in the AERO and Land Terminals
- Spot beam selection mechanism
- Limit of Maximum number of Mobiles transmitting simultaneously.
- Associated Traffic profiles needed to justify any probability assessments.

1.3 What is the nature of the services provided using leased capacity? e.g. voice to/from ships, high speed data to/from land terminals, GPS accuracy augmentation broadcast etc.

1.4 Does the lease include the provision of any distress and safety related services?

1.5 What are the business categories of the end users; land, maritime or aero?

1.6 Approximately how many MESs will access the lease capacity? If multiple channels are requested give the maximum possible number of MESs per channel.

Mechanism that is used to limit the simultaneous transmissions.

1.7 Please give any other information, which the applicant considers relevant or wishes to be taken into account in support of this application.

Amendment 0002 - G+A Attachment 2

SECTION 2 SPACE SEGMENT

2.1 Which spacecraft is suggested to carry the proposed lease? (see note 3)

2.2 Are there alternatives? Yes or No

If Yes, give names

2.3 Which beam(s) is/are suggested to carry the lease: GL, SC(1), SW1(2), SW2(3), NW(4), NC(5), NE(6), SE(7)? **Is it possible to combine different beams in order to provide the service , i.e. GL in the forward direction and spot beam in the return direction.** Beam coverage for the various services are to be found in The Inmarsat Operational Procedure *OP 015

Alternatively give the latitude and longitude of corners of a polygon enclosing the area. It should be noted that for M, B, and Phone leases, which would operate on Inmarsat's prime satellites, there could be problems with MESs which are close to the boundary of two spot beams. In such cases the applicant should give the MES latitude/longitude and Inmarsat may have to either make an allocation in the global beam or allocate two lease channels, which would have to be paid for, one on each of the two contending beams. If there is no specific spot beam preference or the lease cannot be accommodated in the suggested spot beam, Inmarsat shall use the enclosing polygon points to decide the most suitable spot beam.

2.4 Is/are there any spot beam alternative(s)?

2.5 Are there any limitations to the elevation angle of the spacecraft from the mobile? If Yes, give details.

2.6 In the event of a space segment outage is there any requirement for restoration of the lease or another Inmarsat spacecraft. If Yes, give details

2.7 In the event that Inmarsat satellites become power or spectrum limited, can the applicant accept forms of modification or restriction of the leased capacity falling short of complete suspension? e.g. reduction of power and/or bandwidth or interruption of service during peak periods.

SECTION 3 TRANSMISSION PATH

3.1 Channels required

Fill in details of the Channels and Modulation Scheme (see note 4) in the table below. IF the CN 17 concept (see note 5) is to be used, list any NCSC/TDM, AFC Pilot and Request or Response channels that will be required. Provide associated **spectral plots** for the forward and the return channel(s)

Ch N o	Forw ard or Retur n	N a m e	Chip Rate kbits/ s	B i t R a t e k b i t / s	Symb ol Rates k symbo l/s	Modul ation	Codi ng	Contin uous Carrier	Filt ere d	Occu pied BW kHz	3 d B B W k H z	EIRP dBW
1												
2												
3												
4												
5												
6												

3.2 Frequency Constraints (see note 6)

Is there a particular frequency band envisaged? If Yes, give details

3.3 Stability

For each of the channels, detailed in 3.1 above, provide the EIRP Stability and Frequency Stability at the LES (C band AFC correction not included) or MES outputs, including initial setting, long term drift and diurnal effects.

Channel	EIRP \pm dB	Frequency \pm Hz
1		
2		
3		
4		
5		
6		

3.4 L-C and C-L Link Budgets

Please provide link budgets for nominal (i.e. all parameters at nominal levels and no fading) and worst case conditions, with description of the spreading factors used.

SECTION 4 LES CHARACTERISTICS

- 4.1 .Which antenna is proposed to carry the service? Give site name and antenna identification e.g. GH52
- 4.2 Is the antenna presently in service to support Inmarsat services? If Yes give services.
- 4.3 .Has the antenna undergone LES RF Verification testing in accordance with Inmarsat Operational Procedure *OP 310 and been approved? If Yes give the services for which it was approved. If No see note 7
- 4.4 Is the CN17 concept is to be used? (see note 5)
- 4.5 Has the LES ACSE and antenna system been approved for a CN17 service by testing in accordance with OP301? If so give details (ACSE manufacturer, approval status, known operational constraints, any open waivers and the planned dates on which they will be closed). List any outstanding Waivers and Operational Restrictions. If the antenna system and ACSE has not yet been tested give the dates when it is planned to be tested.
- 4.6 If the CN17 concept is to be used is there a preference for use of a particular LES access code? If yes, specify.
- 4.7 If the lease is for a standard Point to Multipoint Channel will a new Service Identifier be required, will an existing Service Identifier be used (is so specify which) or will the generic Service Identifier 5555 be used?
- 4.8 C Band Modems

Please provide full details
Manufacturer
Model

Type

Has Inmarsat given any form of type or case approval for the use of these modems? If yes give details.

Have the modems been tested with the LES to prove the joint compliance of the transmit parameters with SOP 310 requirements. If so give details

5 MES CHARACTERISTICS

5.1 Is a type approved or case approved MES to be used? If yes give details of approval. If no provide full details of Manufacturer, Model, Type and Technical description and results from tests performed.

5.2 Explain the mechanism according to which the geographical boundaries of the spot beams are distinguished.

5.3 MES Antenna Characteristics

Is a standard MES antenna, as specified in an Inmarsat System Definition Manual or a Technical Requirements Document, being proposed? If Yes, specify the type i.e. A, C, Aero low gain, Aero intermediate gain, Aero high gain, M Maritime, M Land, B, Phone land portable, Phone maritime, Phone land, Phone big dish, M4. **If No, please provide the beam pattern/sidelobe pattern, down to 30 dB below peak gain, on a separate sheet.**

5.4 CN 17 software

If the CN17 concept is to be used, give the compliance of the MES with the requirements of CN17 (Manufacturer, approval status, any known operational restrictions, any open waivers and the planned date on which they will be closed.) If the MES requires testing for compliance, give the planned dates of the tests.

5.4 MES Details

If using **ALL** the provisions of one the Inmarsat Standard Services together with leasemarking, give the category of the MES (see note 8 for details) and the list of Forward IDs to be used with each channel applied for.

SECTION 6 Times of Operation (see note 9)

6.1 On what date is the start of the lease foreseen? ____ _

6.2 How many years/months will it be operational? ____ years/months

SECTION 7 PRE-OPERATIONAL TEST

7.1 Is a pre-operational test required? Yes or No

7.2 Will the pre-operational test use the operational configuration and equipment : ie the same MES/Satellite/Beam etc as the lease.? If No, give details of differences and deficiencies :

7.3 Suggested date of pre-operational test.
(e.g. 2 weeks before start of service)

7.4 Test Duration (hrs.)

SECTION 9 Operational Contacts

Give names and contact details of two people who can be contacted by the NOC to adjust or remove carriers. (see note 11)

Name _____

Name _____

Location _____

Location _____

Telephone No _____

Telephone No

Facsimile No _____

Facsimile No _____

Back up Telephone No _____

Back up Facsimile No

**Send the completed form to Paul Condon fax: +44207 728 1193, e-mail:
paul_condon@Inmarsat.com copy to E Drakos, e-mail:
evripides_Drakos@inmarsat.com**

Notes

Note 1 The description should be sufficiently detailed to enable a reader unfamiliar with the details to grasp the essentials. It may be assumed that the reader is familiar with the Inmarsat standard services. Append diagrams or additional text on a separate sheet where this would be useful.

Note 2 Leases carried on Inmarsat's prime satellites would normally use all the standard provisions of the service concerned, including signalling, but they would be allocated dedicated channels via "Leasemarking" in the NCS. Inmarsat's standard services where lease marking is available are B voice/data/fax, B-HSD, M-land, M-maritime, Phone-land portable, Phone-land, Phone-maritime, Phone-big dish.

Note 3 The lease policy generally requires that leases on the four prime satellites at 15.5°W (AORE), 64°E (IOR), 178°E (POR), 55°W (AORW) are carried in spot beams. Leases requiring global beam coverage should be carried on the spare satellites currently at 25°E, 98°W and 109°E.

Note 4

Forward/Return Enter F for a link in which the spacecraft transmits at 1.5 GHz or R for a link in which the spacecraft receives at 1.6 GHz

Name If a lease using a standard service, i.e. (B,M,Phone Point to Multipoint or AFC pilot), is proposed use the following names
x-LESV_CL, x-MESV_LC, where x is "B", "M", "P"
x-HSD_CL, x-HSD-LC where x= "B"
L_PMx_CL where x= the symbol rate "1k2", "2k4", "4k8"
(i.e twice the user bit rate)
Pilot_CL, Pilot_LC
In this case NO other information is required to be entered in this table.
For other leases enter a name that will help in referencing to the description of the service e.g. "TDM", "Return"

Bit Rate kbit/s Not required if using a standard service

Symbol Rate ksymbol/s Not required if using a standard service

Modulation Enter PSK, OQPSK, FM dev \pm 25 kHz etc. Not required if using a standard service

Continuous Enter CW, Voice or data activated, TDM, Burst etc. The description should contain full details. Not required if using a standard service

Filtered Describe any post modulation filtering. Not required if using a standard service

Occupied BW kHz Provide bandwidth occupancy of the channel including for return channels a potential doppler contribution of 0.3 kHz. Not required if using a standard service

EIRP dBW For a forward channel this is the spacecraft minimum EIRP required. For a return channel it is the EIRP of the fixed or mobile terminal on the ground. Not required if using a standard service

Note 5 The CN17 concept allows leases to be carried on a satellite not supported by an NCS. The LES is responsible for the allocation of channels to MESSs and transmits its own NCSC/TDM. The CN17 concept is presently only available for Inmarsat B.

Note 6 Inmarsat reserves the right to change lease frequencies with 3 months notice in response to operational considerations. It should be noted that for the third generation spacecraft in use from 1996 onwards the frequencies allocated to a particular spot or the global beam are subject to change in response to traffic loading and frequency co-ordination constraints.

Note 7 Note that any use of non standard C Band Facilities is unlikely to gain early approval. LES verification tests could be required. Please provide full details on a separate sheet.

Note 8 The categories of standard services are defined as follows
Inmarsat B has categories voice/fax/data maritime = "1", voice/fax/data land = "2" and HSD = "6"
Inmarsat M has categories maritime = "1" and land = "2"
Inmarsat Phone has categories maritime = "3", land mobile = "4", land portable = "5", big dish = "6", aero = "7", M4 land = "8", M4 maritime = "9"

Note 9 As Inmarsat spacecraft become saturated there can be no guarantee that operation of preemptible leases in the busy period 08:00 to 18:00 spacecraft local time will be possible.

Note 10 It is a requirement that such persons should be contactable at all times that lease carriers are operational and that they should be capable of making adjustments to frequency and levels within five minutes.