AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 / 15

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
0004	01-Jul-2003	37170091	

6. ISSUED BY CODE N65540
NAVAL SURFACE WARFARE CENTER, CARDEROCK
CODE 3352, ROBERT COLOT
5001 SOUTH BROAD ST
PHILADELPHIA PA 19112-1403

7. ADMINISTERED BY (If other than item 6) CODE

See Item 6

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)

CODE FACILITY CODE

X	9A. AMENDMENT OF SOLICITATION NO. N65540-03-R-0006
X	9B. DATED (SEE ITEM 11) 14-May-2003
	10A. MOD. OF CONTRACT/ORDER NO.
	10B. DATED (SEE ITEM 13)

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

[X] The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer [ ] is extended, [X] is not extended.

Offer 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: (a) By completing Items 8 and 15, and returning 1 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 THE 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.

[ ] 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 date, 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:

[ ] D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor [ ] is not, [ ] is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

answer questions

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 AND TITLE OF CONTRACTING OFFICER (Type or print)	
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (Signature of Contracting Officer)	16C. DATE SIGNED 02-Jul-2003

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

Amendment 4

1. The following paragraphs provide additional contractor questions regarding the solicitation and the Government's answers to the questions:

Q42. Section 2.4 requires the contractor to provide a "mounting system" that is compatible with the existing subbase. Section 2.7.3.1 requires that "complete diesel engine and other equipment mounted on the subbase shall be shock tested with the entire mounting system as configured for shipboard installation".
The subbase for the MCM MPDE is quite large and forms the platform for two engines and the reduction gear. The subbase for the MHC engine is in fact the enclosure.

It is requested that the PCO confirm that our interpretation is correct. Additionally, we would like to have clarification as to whether the Navy will provide as GFE a sibbase, reduction gear, and dummy engine for the MCM, and an enclosure for the MHC, or whether the contractor is expected to provide and price these materials.

A42. The general description of the MCM MPDE subbase cited above is correct. The MHC MPDE is attached to a subbase. The subbase is attached to an intermediate mass that presently includes the acoustic enclosure. If the new shipboard installation configuration includes an enclosure, it shall be included in the shock test. The Navy will provide no GFE for the shock tests. The contractor shall provide and price all materials.

Q43. SECTION/PARA. J/ 2.5.18: Permanent magnetization requirement – Maximum Vertical Magnetization is not to exceed 50,000 nT at specified distance of 20 feet below. Is the test to be performed in both the +(north) and –(south) 50,000nT applied field in order to be sure to identify the actual Maximum Magnetic Signature value of the engine? The same question applies to sub paragraphs 2 and 3 of the same section.

A43. The specification calls for testing to be done on the engine with a zero applied field in the orthgonal axis, with only the axis under test (EVM = Z, ELM = X and EAM = Y) to be set to the applied field of +50,000nT, +40,000nT and +40,000nT respectively. Therefore only the magnetization from the axis under test will be measured after the deperm procedures. There is no North or South direction as part of this procedure. For example: to measure PVM the engine will have Hx=0, Hy=0, Hz=50,000nT applied during the shakedown (deperm) procedure. At the end the engine will be measured in the same applied field. This will measure the Equilibrium Vertical Magnetization or (EVM) which must have a Hz moment of less than 500,000nT * foot cubed.

Q44. SECTION/PARA. J/ 2.5.18: Requirement is for the ME deperm to consist of alternating polarity DC pulses starting with 3 (30) gauss with a duration of 15 seconds. Then successive pulses will be decreasing bt 85% from the previous and alternating in sign until ….. If the second set of pulses are to be decreased by 85% from the first that would make them 4.5 gauss. And the third set would be 0.675 gauss.
Are the pulses to be three (3) pulsed of thirty (30) gauss with a duration of 15 seconds each?
Is the pulse strength to be decreased by **85% or to 85%** of the previous pulse?

A44. The shot sequence would be as follows, each with a duration of 15 seconds:

+30Gauss
-30G
+30G
-25.5G
+21.675G
-18.42375G
and so on until the applied field is .1G

In addition, minor changes are made to Section J, Par 2.10.3.2 "First Article Magnetic Test Procedures" as cited in section 3 of this amendment.

Q45. Section 2.5.11 of the Technical Specification states measured and calculated engine load is required. How is the current engine load measured?

A45. The current engine load is estimated based on engine rpm and engine parameters. Engine load is not directly measured in the current propulsion applications. Generator engines are measured via kW output.

For the MHC MPDEs, an indication of engine load will be required from the ECU to trigger automatic engine load cutback. The current engine load is inferred based on governor position (from the Woodward EGB-2P RVDT). The RVDT gives us governor travel (0-100%). From this fuel rack is calculated by the MCS (0-100%). The current Machinery Control System has a schedule (user adjustable), that will remove pitch from the propeller based on engine RPM and percent of fuel rack (engine load). The load cutback schedule is below:

X	0	900	1150	1800
Y	58	58	98	98

X = engine rpm
Y = fuel rack percentage

The load indication from the new ECU to the MCS may be based on whatever the OEM determines to be a linear indication of load on the engine. The MCS will use the provided engine load value to control engine load cutback.

For MCM MPDEs, load cutback is not currently programmed the MCS but the requirement for providing measured and calculated loads still applies.

For the SSDGs, the governor position and fuel rack is currently displayed on the operator consoles but is currently not used for any additional calculations.

Q46. How does the Machine Control System currently command speed control? (PWM, 4-20 ma, message?)

A46. The MCS currently sends a voltage (1 to 5VDC) signal to a Woodward governor for engine speed control. The Woodward Governor then sends a current signal to the engine mounted electro-mechanical actuator.

Q47. Reference Section L 2 Technical Proposal - Often the Table Of Contents is excluded from the page count. For this proposal, can the Table Of Contents be excluded from the 100 page limit? Please advise.

A47. The complete proposal including the table of contents shall be contained within the 100 page limit

Q48. Reference Section F, Place of Delivery for CLINS's 2-7 - Please advise specific Delivery addresses for Production Units expected under CLIN's 2-7.

A48. Specific delivery addresses are not yet available – exact shipping addresses will be determined after award of follow on installation contract. In general terms, delivery addresses will be within a 50 mile radius of the following cities:

Ingleside, Texas
Manama, Bahrain
Sasebo, Japan

Anticipated schedule listed by Fiscal Year and Location are defined by the table provided in Section F under “CLINs 0002, 0003, 0004, 0005 and 0006”.

Q49. Reference Section F, Required Delivery Schedule for CLIN's 0001AJ-0001AM - What is the anticipated date for Solicitation and Award for the Integration and Installation Contract referred in Section F?

A49. Anticipated solicitation date for follow on Integration and Installation Contract will be July 2003. Anticipated award will be within one calendar year of date of follow on solicitation for Integration and Installation.

Q50. What is the period of Performance for CLIN 15, Services to provide an evaluation of the suitability of the installation detail design?

A50. The anticipated Period of Performance will commence within 30 days of follow on Integration and Installation Contract via a delivery order issued by the Government under the contract resulting from RFP N65540-03-R-0006. Period of performance from date of delivery order will be approximately 120 days.

Q51. The Solicitation, on page 90 of 101 beneath "Maintainability," states that maintenance man-hours are to be calculated "for 15 years of operation @ 2500 hours per year." This conflicts with the statement described within Section 2.3.1 of the Technical Specification and cannot be reconciled from a labor and material standpoint. Could you provide clarification which is correct?

A51. See section 4 below.

Q52. Reference requirement for Low Load Operation J1 2.3.4 and J1 2.10.3 Endurance Tests. Our understanding is that the SSDG engines do not require the low load capability nor the Low Power Endurance Cycle because that is not in their operational profile J1 2.3.4. Please concur?

A52. As stated in the response to question 25 of amendment 0003, the information provided represents the average duty cycle for each application. Navy generator operation is typically performed in split plant configuration to maintain redundancy in the electrical plant. This configuration translates to low load operations. The generators as well as the propulsion applications for this contract will be required to meet the low load operational testing and operation defined in Section J, Attachment 1.

Q53. Reference J1 2.3.1 identifies operation hours for the MPDE of 3200 hours per year and 4400 hours per year for the SSDG. Reference J2 4.2 shows MCM MPED and SSDG to be 4400 hours per year and MHC MPDE and SSDG to be 3200 hours per year. These statements are contradictory. Please clarify the annual useage for each engine position.

A53. See Section 5 below.

Q54. Upon our review of Training in CLIN 8, We plan to use sub Clins in our response to provide costs to reflect training costs differences between Texas, Bahrain and Japan. Please concur with the use of SubClins or provide some way to reflect the difference in pricing between these locations.

A54. Use of Sub-CLINs as described in Q55 is allowed to reflect training cost differences between Texas, Bahrain and Japan.

Q55. Can we ship engines designated for training via Government Bill of Lading or should we include transport costs in our training costs?

A55. If meeting the training requirements specified in the solicitation requires shipping engines as stated in the question, the transport costs shall be included as part of the training cost.

Q56. The direction for preparing the Cost Proposal, starting on RFP page 86, provides a list of cost elements. It does not include material, which would include repair parts required for the 60 month Logistics Services. In order to assess the realism, it appears that an estimate of repair parts would be needed, else a contractor with a high reliability engine would appear no better than one with a low reliability engine. Also, the concept of Total Ownership Costs always includes both labor and material (parts).

Based on the above, we assume that the Total Ownership costs worksheets include material (parts) and that the Cost Proposal preparation instruction should include a material cost element. Please concur.

A56. The Government concurs.

Q57. Regarding Figures in the Proposal - Can we waive the double spacing/font size 10 requirement and use single space/ font size 9 on created graphics and use a criteria of readability for scanned images such as Agency Certificates? Please advise.

A57. The requirement for font size and double spacing applies to the entire proposal as specified in the RFP.

Q58. Reference Section J, Attachment 1. sections 2.7.3.1, .2 and .3. These paragraphs state that the subbase, resilient mounts and snubbers shall be part of the shock test. Since these components are not in the scope of supply under this contract, we assume that the Navy will be supplying these components for the shock testing. Please concur.

A58. The Navy will provide no GFE for the shock tests. The contractor shall provide and price all materials.

Q59. Reference Section J Attachment 1 section 2.6.3.4. and CDRIL AO38 & AO39. These sections ask for RMAAA and FMECA. These processes are most applicable to design built procurement versus COTS procurement of existing product. We request that these CDRIL's be withdrawn from this RFP. Please advise.

A59. RMAAA is necessary to determine the attainment of the MTBF for the engines. Since there will be no reliability demonstration or test, this is the only method of assuring compliance. FMECA is to assure that maintenance critical features are identified and compensated for. The engine design may not be impacted for COTS engines, but circumventing maintenance and operating procedures would be of value to preclude the occurrence of critical failures.

Q60. We would like clarification on the metrics for CLIN 11. When we use the goals defined in CLIN 11 for the propulsion diesel, MTBF=2000, MTTR=5 and Ao = 0.95 and calculate MLDT, we get a value of 100.26. This is more than the maximum of 100 hours, an apparent contradiction since the mean is more than the maximum. May we suggest that you define Ao and MTBF goals and allow the contractor to meet these numbers by performance with MTTR, MTBF and MLDT. In addition, in section H, page 42 of the RFP there is no award fee consideration of Fill Rate (required by CLIN's 11, 12 and 13) or MLDT or Maximum MLDT. We request that you consider respeccing only Ao and MTBF as key metrics and allowing flexibility in MTTR and MLDT. Based on that decision please revise section H and J2 accordingly.

A60. The Government Concurs. Key metrics shall only include MTBF and Ao goals vice MTBF, Ao and MTTR. Flexibility is allowed in MTTR and MLDT, however, MTBF shall remain at 2000 hrs. and Ao shall remain at .95 for MPDE and .975 for the generator engines.

See Section 6 of this amendment.

Q61. In order for us to validate some engineering interface assumptions in our proposal, it will be beneficial to be allowed a ship visit on an MCM and an MHC. The 1,570 pages of drawings are useful and detailed, but unfortunately do not provide detail regarding the engine interfaces. We desire to provide the best value to the Navy and a ship's visit would ensure that our scope of supply is both suitable and most cost effective. Please advise when a ships visit can be arranged and whom we should contact.

A61. The Government does not believe a ship visit is necessary in order for the Contractor to successfully submit a proposal for this solicitation. The Government, therefore, does not intend to coordinate ship visits prior to solicitation closure date.

Q62. Please provide a description of maintenance capabilities of the engine men onboard the MCM and MHC. In addition please provide a listing of the common tools on board these ships.

A62. U.S. Navy Engine Men are equivalent to commercial certified diesel engine mechanics. They are capable of complete disassembly, repair, troubleshooting, overhaul, inspection, test and assembly of diesel engines.

NOTE: Although U.S. Navy Enginemen are equivalent to commercial diesel engine mechanics, they typically do not have experience or training with Electronic Fuel Injection systems since most Navy applications are non-electronic fuel injected.

The common tools are listed in the attached Allowance Equipage Lists (AELs) outlining all common tools authorized aboard MCM and MHC Class Hulls.

Q63. Analysis of engine reliability and durability as installed in these ships is dependent on an understanding of the expected duty cycle. J1 section 2.10.3 describes Endurance Tests which simulates "worst case" conditions for propulsion engines. These conditions appear to be specific for worst case propulsion engines. Please provide a description of the duty cycle (load, speed and time at operating points) for each ship's MPDE and SSDG.

A63. The response to this question is the same as that provided to Question 25 in Amendment 0003 of this solicitation.

Q64. The compound gear on the MCM ships a large GE electric motor (item60) on the aft side of the gear. Please advise the purpose of this motor.

A64. MCM-1 Class ships are equipped with Light Load Propulsion Motors (LLPMs). The light load propulsion motors are available for performing low load/low ship speed propulsion operations (i.e. with the diesel engines secured/off-line). Certain ship mission requirements, however, require utilization the Main Propulsion Diesel Engines (MPDEs) for performing low load operations. This mission requirement drove the low load requirements in the procurement specification.

Q65. We are considering the possibility of contracting NAVSSES to do a first article test should we win the re-engining award. Is that possible and could you price the effort or get me in contact with someone who can.

A65. The NSWCCD-SSES Philadelphia Diesel Engine Test Facility (DETF) is currently slated for various unrelated testing in the FY03 through FY04 time frame. The NSWCCD-SSES Diesel Test Facility or test personnel will not be available to support this testing.

Q66. The diesel engine we are proposing has been purchased by DOD for use in marine applications. We believe we have a strong case for waiver approval in accordance with the waiver paragraph on page 54 of the RFP. While the paragraph discusses First Article Test waiver, we recognize that three tests must be performed, even when the waiver is granted, i.e. low power, magnetic and shock. We are planning to price under CLIN's 001AA through 001AD, 1 each engine for a total of four. We will then price shock
testing for the engines in CLIN's 001AJ through 001AM. Magnetic and Low Power testing will be priced in CLIN 001AA for the applicable engine. Based on the family waiver (2.10.3), we will then not price engines under CLIN's 001AE through 001AH. Please concur.

A66. CLIN's 001AE through 001AH should be priced in case the waiver is not granted.

Q67. Reference Attachment 3, PBL, Section 9.0 Customer Service, last paragraph on page 7. "achieved reliability and availability data will be reported periodically in contractor's format to substantiate compensation in accordance with the plan proposed by the contractor." Availability and reliability are not Contractor Performance Metrics and Incentives as described in Section 4.0 of this attachment. We will not price the development and delivery of this data. Please concur.

A67. The Government does not concur. See Section 7 of this amendment.

Q68. Reference Attachment 3, PBL. Please describe the metrics that will be used to evaluate "waterfront technical support". The evaluation criteria described on pages 43 and 44 address only CLIN 11, CLS. Please provide performance metrics applicable to the Engineering effort of CLIN 12.

A68. Performance metrics provided in pages 43 and 44 are applicable to CLS (CLIN 0011), PBL (CLIN 0012) and PBL-C (CLIN 0013). The Operational Availability (Ao) and Mean Time Between Failure (MTBF) are requirements for any contractor provided engine (Section J, Attachment 1, Par 2.6) regardless of which type of service contract is awarded. Waterfront technical support as defined for CLS and PBL includes elements Factory Liaison, Program Management and Technical support, all of which are evaluated using the factors described in Section H of the RFP.

Q69. Regarding attachment J1 page 39, Replenishment Spares. We understand that replenishment spares provide the ship with replacements onboard repair parts when initial outfit spares are used until MSD. This means that when we prices spares, assuming that provisioning occurs 6 months ARo, then MSD occurs at month 30. Therefore, there are no parts that should be quoted under CLIN's 11,12 or 13 before month 30 and conversely, no replenishments quoted after month 30. Month 30 is FY 06, therefore no replenishments should be quoted in FY07 and FY08. Do you agree?

A69. The Government concurs.

Q70. The engines we are proposing have already passed MIL-E-24455 which includes submission of detailed design data. Must the Detailed Design Data, (now contained in the 100 page attachment),on page 89 (and referred in the answer to question 18) be submitted for engines that already MIL-E-24455 Navy Approval?

A70. Yes, the detailed design data requested on page 89 must be submitted with the proposal even for engines that already have MIL-E-24455 approval. Detailed design data submission was not a previous requirement under MIL-E-24455.

Q71. Since the answer to Q24 removed the 10% overload requirement for the MPDE's, please remove the 110% load requirement from production test for MPDE engines. Reference page 62 of Attachment J1.

A71. Although the requirement was modified for propulsion engines for final shipboard installed output, all production engines are still required to produce the 110% during the factory endurance testing and factory production unit testing.

Q72. Please provide a shaft speed/pitch and a ship speed/pitch profile of the MHC's Voith-Schneider Propellers.

A72. Ship speed will vary dependent on hull fouling/cleanliness, sea state, wind, current and other ship environmental conditions. The ship can achieve typical maximum speeds of approximately 13 knots at full power with conditions optimized.

TRANSIT MODE

Lever	Engine Speed	Propeller Pitch	IFVG Speed
-10	1800	3.2207	666
-7.5	1557	3.2207	576
-5	1267	3.2207	470
-4.5	1200	3.2207	444
-2.5	1200	1.8672	444
0	1200	0	444
2.5	1200	1.8672	444
4.5	1200	3.54	444
5	1267	3.54	470
7.5	1557	3.54	576

10	1800	3.54	666

MINEHUNT MODE

Lever	Engine Speed	Propeller Pitch	IFVG Speed
-10	1200	3.5433	444
-7.5	1200	3.4533	370
-5	1200	3.5433	290
-2.5	1200	3.5433	189
-2.16	1200	3.5433	183
-1	1200	1.002	206
0	1200	0	240
1	1200	1.002	206
2.16	1200	3.5433	183
2.5	1200	3.5433	189
5	1200	3.5433	290
7.5	1200	3.5433	370
10	1200	3.5433	444

Q73. A fluid coupling is shown in your drawings of the existing propulsion system. However, the coupling is not specified in the current RFP. Please advise if it is your intent to: a) use the existing coupling; b) no coupling is to be furnished, or: c) a coupling is required and it is to be furnished by us.

A73. A Voith fluid coupling exists on MCM 3-14 Class propulsion systems. The MCM 1 & 2 incorporate a LO-Rez coupling (which is not a fluid coupling). The MHC propulsion system incorporates a Holset coupling between the engine and the Integrated Fluid Variator Gear (IFVG). A coupling is required in all of these applications and it is to be furnished by the Contractor. See response to question 16 for further related information.

Q74. Please provide electrical and control interface drawings for the main propulsion engines, drive train, generator, and generator engines. They are not in the drawing set provided.

A74. The Government does not feel it is necessary for the offerors to have these requested drawings for the purpose of submitting a proposal. All electrical/control interface requirements are provided in Section J, Attachment 1.

Q75.For the MCM MPDE, Section 2.4.1 c. of Section J, Attachment (1) states “Engine loading shall be balanced between engines for two engine per shaft operations.” Is this load sharing function to be provided as part of the engine, or is it part of the existing MCS system?

A75. This load function shall be provided by the Engine Manufacturer. The load sharing function shall interface with the existing MCS.

Q76. Can an alternate to steel chocks be used for maintaining proper alignment of the diesel engine mounting system?

A76. Alternate material to corrosion resistant steel chocks can be used, but the remaining requirements of Section J, Attachment 1, par. 2.4.1a, 2.4.2a, 2.4.3a, and 2.4.4a remain in effect.

The subject paragraphs shall be modified by removing the word “steel” from each paragraph. The affected sentence shall read:

"Self-leveling, corrosion resistant, height adjustable chocks in sufficient quantity shall be used to maintain proper alignment of the diesel engine mounting system."

Q77.Refer to Technical Specifications, Page 6, Paragraph 2.2 Application Requirements, Page 11, Paragraph 2.4.2 MCM SSDG sub-paragraph h) specifies 150% overload for two minutes. Please confirm the two-minute duration is correct. Please explain the conditions under which the generator might experience this overload condition.

A77. The two minute duration is correct per paragraph 4.7.13.2 of MIL-G-3124D(SH). However, the power factor as stated in paragraph 2.4.2.h of the spec is incorrect. The power factor should read "0.5 lagging or less" vice "0.8 lagging". The generator would not be expected to experience a 0.8 lagging power factor, 150% overload condition. The "0.5 lagging or less" vice "0.8 lagging power factor" requirement also applies to paragraph 2.4.4j.

Q78. Are existing MHC generators specifically designed for non-magnetic applications?

A78. The generators were specifically designed for non-magnetic applications (i.e. no other generators of this type are used anywhere else). The builders spec specifies a certain magnetic signature which was met by the existing generator. The generators contain magnetic material as a matter of function, but the overall magnetic signature of the generator does meet the original requirement.

Q79. Please furnish the electrical specifications for your generators.

A79. Generator electrical ratings are provided in par 2.2 of Section J, Attachment 1.

Q80. Is shock test bed equipment available from previous shock tests that simulate ship installation for each application?

A80. The Government will provide no GFE for the shock tests. The contractor shall provide and price all materials.

Q81. What is the purpose of the mark "?" found throughout the Technical Proposal next to Sub-paragraph line items such as found on pages 4, 5, 6, 10 and more. Are these items in question as to whether or not they should be included in the Technical Proposal? Please explain purpose and intent of such marks.

A81. The question marks referenced in this question were circular "bullets" within the original document. These bullets were inadvertently converted to question marks when the original document was converted into PDF format.

Q82. Refer to Sec L, Page 88, Paragraph (1) Solicitation, Offer and Award Documents (SF-33 RFP), Please advise if it is permissible or do you require a priced Section B and completed Representations and Certifications in Section K, along with Sections C through J, and sections L and M to be located in the Cost Proposal. In other words, a complete return of Pages 1 through 101. If just sections B and K, are they to be located in the cost proposal as well as with submittal of completed STD Form 33?

A82. A completed and entire Solicitation, Offer and Award Document (SF-33), technical proposal and cost proposal are required to respond to the solicitation. The cost proposal shall provide compete and clear supporting documentation for the pricing provided in Section B of the RFP, especially for the Cost Plus Award Fee line items. A detailed cost breakdown of the fixed price line items cited in the RFP is not required. Other sections of the RFP shall not be included in the cost proposal.

Q83. The answer to Question 24 modified the rating definitions slightly and provided a more realistic approach to overload capability. In Section J, Attachment 1, paragraph 2.4.2h and 2.4.4j an overload of 150% at 0.8 power factor for two minutes is required of the engine. While a 150% overload requirement of the generator is not unusual based on a very low power factor, a requirement like this on the engine is very unusual. Is this really what you mean? The now inactive MIL spec MIL-G-3124 calls for a 150% generator overload for two minutes but at a power factor of 0.5 or less which substantially reduces the load on the engine.

This is intended to be a generator test, not an engine test. Should the power factor in paragraphs 2.4.2h and 2.4.4j read 0.5 or less instead of 0.8?

A83. The Government Concurs. The power factor should be 0.5 lagging or less in paragraphs 2.4.2h and 2.4.4j.

Q84. Referencing Amendment 3, page 12. The addition of the Clause "Proposals that Involve Modification to existing ship systems", particularly the sentence, "All costs to perform any modifications of existing ship systems must be included in the offeror's proposal".

This appears to require the contractor that wins this contract to price and be responsible for all installation modifications. This appears to be in conflict with your response to Question number 2 in Amendment 1. " The program acquisition strategy has been revised to separate engine procurement and installation. The initial contract anticipated to be awarded as a result of this solicitation includes the qualification and procurement of the engines; training support; long term maintenance and logistics support; and collaboration/evaluation of the installation detail design package which will be developed under a separate solicitation. It is anticipated that a second solicitation will be issued for proposals for the development of the engine installation detail design package, installation and test and check out. CLIN 0015 is not the second contract but rather the vehicle under the engine procurement contract by which the engine OEM
will evaluate the installation activity's proposed installation design to ensure it will not adversely impact performance of the engine."

The current RFP is structured for acceptance at our factory with the FOB point, our dock. The current CLIN structure does not have a place for ship modification pricing. We assume that the intent is to not change the Program Acquisition Strategy and the contract anticipated as a result of this solicitation continues to include only qualification and procurement of the engines; training support; long term maintenance and logistics support; and collaboration/evaluation of the installation detail design package
which will be developed under a separate solicitation base on our engine solicitation. Please concur.

A84. Clarification: The Contractor for this solicitation is not responsible for all shipboard installation modifications but would be responsible for modifying the rotational direction or operational speed of the generator, if specified in the offeror’s proposal. Offerors can propose solutions that require rotational direction or operational speed modification of the driven generator as long as the end result is achieved and is clearly defined within the proposal. However, one of the goals of this engine conversion is to minimize impacts to existing shipboard systems. "Impact to ship systems" is covered under the technical evaluation factor of "Engine Design, Interface and Maintainability Characteristics" which will be evaluated as stated in Section M of the solicitation. The successful offeror will be required to perform any such rotational modification or operational speed of the driven generator. Proposals that include such modifications to the existing generator shall include technical details of the required modification in the technical proposal. All costs to perform any such rotational or speed modification of the existing generator must be included in the offeror's proposal." This cost, if required, shall be included in the price of the corresponding engine.

Q85. The Detailed Design Data requested in the RFP (page89 and referred in the answer to Question 18) is the same as identified in the ABS Guide for Building and Classing Naval Vessels Part 2-3-1/3.3 which appears to be taken from the ABS Rules for Building and Classing Steel Vessels Part 4-2-1/1.9 and 3. If the proposed engine currently has Certification by ABS to the Steel Vessel Rules, does the Detailed Design Data need to be submitted as part of our proposal?

A85. The Government does require that the Detailed Design Data be submitted as part of the proposal regardless of whether the proposed engine currently has Certification by ABS to the Steel Vessel Rules.

Q86. SECTION/PARA. 2.5.8 Diesel Engine Technical Specification: The description of the Air Intake System in the subject paragraph does not require a direct mating up to the current system nor does Paragraph 2.4, Interface, detail that requirement. Is it permissible to draw combustion air from the machinery spaces? Please clarify.

A86. No, combustion air must be drawn from the existing ducting into the space (i.e. outside air). Additional combustion air intake system requirements are detailed in Section J, Attachment 1, par. 2.5.8.

Q87. SECTION/PARA. 2.5.4 and 2.5.18 Diesel Engine tech. Spec: Para 2.5.18 requires all magnetic material, excluding the engine, to have a magnetic permeability of 2.0 or less. Para 2.5.4 states that all of the listed accessories are to be delivered with engine. Are those accessories listed in 2.5.4 to be considered as part of the engine for the purposes of applying the requirements of Para 2.5.18? Particularly the clutch and couplings. Please clarify the status of those listed items.

A87. Attached items that are supplied as part of the engine package shall be included in the overall signature of the engine. If the components are not attached to the engine and not included in the overall signature of the engine, they shall meet the 2.0 permeability requirement in Section J, Attachment 1, par. 2.5.18.

Q88. Q. Are foldouts counted as one page?

A88. Yes, foldouts are counted as one page.

Q89. What are the packaging requirements for the subject contract?

A89. See Section 2.11.2 of Attachment 1.

Q90. Section 2.2 of Section J, Attachment (1) specifies an overload capacity of 110% for 1 hour. Section 2.4 specifies 2 hours. Please clarify.

A90. Section 2.2 is specific to engine rating requirements. Section 2.4 is specific to Generator system requirements.

Q91. In section 2.5.4, page 18, it lists a “MCS Network Port” as an accessory furnished with each engine. I would like to know what form of communication this “Network” will use.

A91.

<u>For MHCs:</u>
Control signals shall be provided either via the ECU over an MCS network interface (preferred method) or via a contractor supplied terminal box (MIL-T-24558 or equal). The network interface protocol and format shall provide deterministic data for process control, shall be non-proprietary, free of licensing fee and compatible with MCS. If an MCS network interface is not available, signals shall be terminated via a terminal box (MIL-T-24558 or equal). The terminal box size and location shall be determined at time of installation and shall be supplied by the engine manufacturer. The format and protocol shall be mutually agreed upon between the manufacturer and the government. Each engine will have its own dedicated PLC. A separate interface from the ECU directly to the PLC shall be provided.

For MCMs:
Control signals shall be provided either via the ECU over an MCS network interface (preferred method) or via a contractor supplied terminal box (MIL-T-24558 or equal). If an MCS network interface is not available, signals shall be terminated via a terminal box (MIL-T-24558 or equal). The terminal box size and location shall be determined at time of installation and shall be supplied by the engine manufacturer. The format and protocol shall be mutually agreed upon between the manufacturer and the Government.
The network interface must be compatible with Allen-Bradley PLC5/40E (Ethernet) series Programmable Logic Controllers. Each engine has its own dedicated PLC. A separate interface from the ECU directly to the PLC shall be provided. The existing fiber optic network shall not be used for this interface. The network interface protocol and format shall provide deterministic data for process control and be compatible with MCS. It is preferred that the network interface protocol and format be non-proprietary and free of licensing fee. The preferred choices of interface are as follows in order with the most desirable listed first:

a) Remote I/O

b) DeviceNet
c) Data Highway Plus
d) Modbus
e) Ethernet IP
f) ControlNet

Q92. Section 2.7.3.2 defines the engine compound mounting system components that are to be included in the shock test (subbase, intermediate mass, acoustic enclosure, etc.). Will those peripheral parts that are not part of the engine package be provided as government furnished material?

A92. The Government will provide no GFE for the shock tests. The contractor shall provide and price all materials.

2. The following sentence is removed from Attachment 3, PBL, Section 9.0 Customer Service, last paragraph on page 7:

"In addition, achieved reliability and availability data will be reported periodically in Contractor's format to substantiate compensation in accordance with the plan proposed by the Contractor."

3. The following minor changes are made to Section J, Paragraph 2.10.3.2 entitled "First Article Magnetic Test Procedures":

2.10.3.2 First Article Magnetic Test Procedures. The measurement of magnetic fields from these engines requires specific procedures and facilities to assure proper evaluation. There are three major magnetic performances that shall be evaluated to ensure compliance with magnetic requirements of paragraph 2.5.18: (1) Induced magnetization, (2) Equilibrium Permanent Magnetization and (3) Magnetization changes due to operation.

Facility Requirements:

Background Magnetic Field Generator
? 1% Uniformity of applied fields over the volume of the item.
? +/- 50,000nT peak field.
? Control Increments <5.0nT
? Environment Stability <1.0nT/hour at measurement sensors.

High Magnetic Field Treatment Generator
? 15% uniformity over item volume.
? +/- 3.5 mT (35 gauss) peak field.
? Control increments <10,000nT.

Magnetic Measurement Devices
? +/-100,000nT range.
? >5m below item center line.
? A minimum of 9 triaxial devices
? Density of devices, 5 feet on center.
? Earth's field monitor sensor.

Induced Magnetization Procedure

Facility Baseline Effect

1. Remove test item from facility
2. Apply + test field in axis of choice.
3. Measure Sensors
4. Apply – test field in axis of choice.
5. Measure Sensors
6. Facility Effect (FE) = (Meas.(2) – Meas.(5))/2

Induced Measurement

1. Place test item in facility
2. Apply + test field in axis of choice.
3. Measure Sensors
4. Apply – test field in axis of choice.
5. Measure Sensors
6. Induced_FE = (Meas.(2) – Meas.(5))/2
7. Induced Magnetization = Induced_FE – Facility Effect (FE)

Permanent Magnetization Procedure

Equilibrium Limit. The equilibrium limit shall be measured after completion of an ME deperm on the engine. The ME deperm shall consist of a series of alternating polarity DC pulses starting with three (30) gauss pulses with a duration of 15 sec. Then successive pulses shall be decreasing to 85% of the previous and alternating in sign until an applied field of less than 10,000nT is applied. The bias applied field during this deperm shall zero in all axis except the axis under test. The item magnetic field shall then be measured in the same bias field.

1. Perform an ME Deperm with specified bias.
2. Measure facility background with required applied fields.
3. Place engine in facility
4. Measure engine with required applied fields.
5. Equilibrium Limit = Meas. (4) – Meas. (2) – Change in earth reference sensor (4-2).

Stress Induced Permanent Magnetization Changes. The engine shall be under load, >75% Max Rated Load and Rated Speed, during these test procedures.

1. Remove Bias Fields, Earth's Field only.
2. Make initial measurement.
3. Apply +20,000nT Hx
4. Start engine.
5. Every 10 minutes remove bias field and make measurement in earth's field, reapply bias.
6. Repeat for 60 minutes.
7. Apply –20,000nT Hx
8. Every 10 minutes remove bias field and make measurement in earth's field, reapply bias.
9. Repeat for 60 minutes.
10. Stop Engine
11. Remove Bias Fields, Earth's Field only.
12. Make final measurement.
13. Stress Perm Change = Meas. (last in 9) - Meas.(last in 6) – Change in earth ref (last in 9- last in 6).
14. Repeat steps 1 through 13 for permanent athwartship magnetization change with application of Hy fields.

4. The first sentence under Section M, "Maintainability" paragraph on page 90 of 101 of the RFP is modified as follows:

"Provide the maintenance man-hours for 15 years of operation at 3,000 hours per year for MCM MPDEs, 4,400 hours per year for MCM SSDGs, 2,000 hours per year for MHC MPDEs and 2,200 hours per year for MHC SSDGs."

5. The following changes are made to Section J, Attachment 1:

a. Par 2.3.1 is revised to cite as follows:

2.3.1 Plan for use. The plan for use shall be as follows:
- ? *MPDEs will be operated anticipated maximum of 3,000 hours per year*
- ? *SSDGs will be operated anticipated maximum of 4,400 hours per year*

b. Par 4.2 is revised as follows:

4.2 Mean Time Between Failure (MTBF)

With a 95% confidence, the MTBF shall be a minimum of 2000 hours in a shipboard installed operational environment. The following provides maximum anticipated operating hours for each application:
- ? *MPDEs will be operated anticipated maximum of 3,000 hours per year*
- ? *SSDGs will be operated anticipated maximum of 4,400 hours per year*

6. The following changes are made to the solicitation:

a. All references to MTTR Goals are deleted from the Award Fee Plan cited in Section H of the RFP.

b. The following change is made to Section J, Attachment 2, Paragraph 4.1:

In no case should the order delivery go above 100 hours.

c. The following change is made to Sect. J, Att. 2, Para. 4.3:

With a 95% confidence, the MTTR shall have a maximum repair time of less than 24 hours.

7. Attachment 3, PBL, Section 9.0 Customer Service, last paragraph on page 7 is modified as follows:

"The Contractor shall provide equipment reporting using mutually agreed upon software. In addition, achieved parts availability data will e reported periodically in Contractors format to substantiate compensation in accordance with the plan proposed by the Contractor."

8. Under Section J, Attachment 1, par. 2.4.1a, 2.4.2a, 2.4.3a, and 2.4.4a., the subject paragraphs shall be modified by removing the word "steel" from each paragraph. The affected sentence shall read:

"Self-leveling, corrosion resistant, height adjustable chocks in sufficient quantity shall be used to maintain proper alignment of the diesel engine mounting system."

9. The power factor cited in Technical Specifications, Page 6, Paragraph 2.2 Application Requirements, Page 11, Paragraph 2.4.2 MCM SSDG sub-paragraph h) is corrected to cite "0.5 lagging or less" vice "0.8 lagging".

10. The power factor cited In Section J, Attachment 1, paragraph 2.4.2h and 2.4.4j is corrected to cite "0.5 lagging or less".

11.The Allowance Equipage Lists are included as an attachment to this amendment.

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